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Proposed Regulation Agency Background Document

Agency name	Department of Environmental Quality (DEQ)
Virginia Administrative Code (VAC) citation	9 VAC 15 - 60
Regulation title	Small Renewable Energy Projects (Solar) Permit by Rule
Action title	Establishment of one or more permits by rule necessary for the construction and operation of small renewable energy projects mandated by the Virginia 2009 Acts of Assembly Chapters 808 and 854 (HB 2175/SB 1347). Specifically, this regulatory action focuses on solar energy projects.
Date this document prepared	December 2010

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 36 (2006) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Brief summary

In a short paragraph, please summarize all substantive provisions of new regulations or changes to existing regulations that are being proposed in this regulatory action.

The purpose of this regulatory action is to implement 2009 state legislation requiring the Department of Environmental Quality to develop one or more permits by rule for certain renewable energy projects with rated capacity not exceeding 100 megawatts. By means of this legislation, the General Assembly moved permitting authority for these projects from the State Corporation Commission to DEQ. By requiring a "permit by rule," the legislature is mandating that permit requirements be set forth "up front" within this regulation, rather than being developed on a case-by-case basis. The legislation mandates that the permit by rule include conditions and standards necessary to protect the Commonwealth's natural resources. The proposal establishes requirements for potential environmental impacts analyses, mitigation plans, facility site planning, public participation, permit fees, inter-agency consultations, compliance and enforcement. The legislation requires DEQ to determine if multiple permits by rule are necessary to address all the renewable energy media. DEQ determined that multiple permits by rule are necessary. This proposal constitutes DEQ's permit by rule for solar energy projects.

Legal basis

Please identify the state and/or federal legal authority to promulgate this proposed regulation, including (1) the most relevant law and/or regulation, including Code of Virginia citation and General Assembly chapter number(s), if applicable, and (2) promulgating entity, i.e., the agency, board, or person. Describe the legal authority and the extent to which the authority is mandatory or discretionary.

This regulatory action is undertaken by the Department of Environmental Quality pursuant to Code of Virginia Sections 10.1-1197.5 through 10.1-1197.11, 2009 Acts of Assembly Chapters 808 and 854. The legislation mandates that DEQ develop one or more permits by rule for small renewable energy projects.

Purpose

Please explain the need for the new or amended regulation by (1) detailing the specific reasons why this regulatory action is essential to protect the health, safety, or welfare of citizens, and (2) discussing the goals of the proposal, the environmental benefits, and the problems the proposal is intended to solve.

This regulatory action is necessary in order for DEQ to carry out the requirements of 2009 Acts of Assembly Chapters 808 and 854 (hereinafter "2009 statute"). The regulatory action is essential to protect the health, safety, and welfare of Virginia citizens because it will establish necessary requirements, other than those established in applicable environmental permits, to protect Virginia's natural resources that may be affected by the construction and operation of small renewable energy projects.

Substance

Please briefly identify and explain the new substantive provisions (for new regulations), the substantive changes to existing sections, or both where appropriate. (More detail about these changes is requested in the "Detail of changes" section.)

This regulatory action addresses the need for a reasonable degree of certainty and timeliness in the natural-resource protections required of small solar energy projects by setting forth, as fully as practicable, these required protections "up front" in this new permit by rule for solar energy projects. The regulatory action describes how the Department will address analysis of potential environmental impacts, mitigation plans, facility site planning, public participation, permit fees, inter-agency consultations, compliance, enforcement, and other topics that may be brought up during the public comment period.

Issues

Please identify the issues associated with the proposed regulatory action, including:

- 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions;*
- 2) the primary advantages and disadvantages to the agency or the Commonwealth; and*
- 3) other pertinent matters of interest to the regulated community, government officials, and the public.*

If the regulatory action poses no disadvantages to the public or the Commonwealth, please so indicate.

The primary advantages of the proposed regulation to the public include the following:

For any individual or company wishing to develop a small solar energy project, the proposed regulation provides certain, consistent and, DEQ believes, reasonable standards for obtaining a permit to construct and operate. Furthermore, the proposal mandates that DEQ process permit applications in no more than 90 days – a timeframe that should help developers in their planning. Provision of certain and timely regulatory requirements should assist developers in obtaining project financing.

For individuals or companies wishing to develop very small projects (e.g., 5 MW and below) or projects falling into certain categories (e.g., mounted on buildings or parking lots), the proposed § 9VAC15-60-130 allows the applicant to perform a greatly reduced number of regulatory requirements. This provision should make it less costly to develop residential-scale and community-scale projects.

Another advantage -- to the regulated community, government officials, and the public – is that this proposal creates a clear and, DEQ believes, an efficient path for development of solar energy in Virginia. Avoiding additional electrical generation from fossil fuels is a benefit for the environment, because renewable energy projects do not emit greenhouse gases or other air pollutants. Developing and expanding new, environmentally-friendly industry in Virginia is also a boost for our economy, and a significant step in creating energy independence from foreign oil interests.

Of interest is the agreement of the regulatory advisory panel (RAP) – a group comprised of representatives from environmental advocacy groups, industry, local government, academia, industry, and state agencies – on all issues presented in the proposal. In a number of states, interested parties and government agencies are debating what natural-resource protections are appropriate for solar energy projects. RAP members who have experience with such projects and regulations across the country expressed the view that Virginia's proposed solar permit by rule is fair, balanced, and appropriately protective of natural resources, while not over-burdening business interests. The fact that the RAP was able to agree on all issues was a significant milestone in creating a constructive and productive process for approving proposed solar energy projects in Virginia.

The proposal poses no known disadvantages to the public or the Commonwealth.

Requirements more restrictive than federal

Please identify and describe any requirement of the proposal which are more restrictive than applicable federal requirements. Include a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements or no requirements that exceed applicable federal requirements, include a statement to that effect.

There are no applicable federal requirements.

Localities particularly affected

Please identify any locality particularly affected by the proposed regulation. Locality particularly affected means any locality which bears any identified disproportionate material impact which would not be experienced by other localities.

The proposed regulation applies statewide and is not designed to have a disproportionate material impact on any particular locality.

Public participation

Please include a statement that in addition to any other comments on the proposal, the agency is seeking comments on the costs and benefits of the proposal, the impacts on the regulated community and the impacts of the regulation on farm or forest land preservation.

In addition to any other comments, the agency is seeking comments on the costs and benefits of the proposal, the potential impacts of this regulatory proposal and any impacts of the regulation on farm and forest land preservation. Also, the agency is seeking information on impacts on small businesses as defined in § 2.2-4007.1 of the Code of Virginia. Information may include 1) projected reporting, recordkeeping and other administrative costs, 2) probable effect of the regulation on affected small businesses, and 3) description of less intrusive or costly alternative methods of achieving the purpose of the regulation.

Anyone wishing to submit written comments may do so by mail, email or fax to Carol C. Wampler, Department of Environmental Quality, 629 East Main Street, P. O. Box 1105, Richmond, VA 23218, ph: 804-698-4579, fax: 804-698-4416, or carol.wampler@deq.virginia.gov. Comments may also be submitted through the Public Forum feature of the Virginia Regulatory Town Hall web site at www.townhall.virginia.gov. Written comments must include the name and address of the commenter. In order to be considered, comments must be received by 11:59 p.m. on the date established as the close of the comment period.

Economic impact

Please identify the anticipated economic impact of the proposed new regulations or amendments to the existing regulation. When describing a particular economic impact, please specify which new requirement or change in requirement creates the anticipated economic impact.

Projected cost to the state to implement and enforce the proposed regulation, including (a) fund source / fund detail, and (b) a	The fee schedule presented in the proposal is designed to recover DEQ's ongoing costs in implementing and enforcing the proposed
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delineation of one-time versus on-going expenditures	regulation. Fees will be collected from permit applicants.
Projected cost of the new regulations or changes to existing regulations on localities	The new regulations are not expected to create costs for localities, unless a locality itself chooses to develop a solar energy project, in which case the locality's costs will be similar to the costs of any other permit applicant (as summarized below). There might be potential costs and benefits to a locality if a project is developed within its jurisdiction, particularly a project encompassing a large number of acres; however, those costs and benefits would occur because of the existence of the project – with potential access or road construction issues, for example – and not because of these regulations. The locality, pursuant to its land-use authority, has the power to determine whether or not a project can be located within its jurisdiction. A locality's decisions in this regard are separate from the operation of the proposed regulations. Pursuant to the 2009 statute, DEQ only requires that the local government certify that the applicant has met all local land-use ordinances.
Description of the individuals, businesses or other entities likely to be affected by the new regulations or changes to existing regulations	Individuals, businesses or other entities wishing to develop a solar energy project (>5–100 MW) will be affected by the new regulations.
Agency's best estimate of the number of such entities that will be affected. Please include an estimate of the number of small businesses affected. Small business means a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million.	DEQ staff is currently aware of two proposed projects that could be subject to the new regulation. DEQ does not know how many other projects may be pursued by developers in Virginia. To the extent that small businesses seek to develop smaller projects (5 MW or less, mounted on rooftops, etc.), they will not be affected by the new regulation, pursuant to the proposed provisions for no notification or certification requirements or greatly reduced requirements.
All projected costs of the new regulations or changes to existing regulations for affected individuals, businesses, or other entities. Please be specific and do include all costs. Be sure to include the projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses. Specify any costs related to the development of real estate for commercial or residential purposes that are a consequence of the proposed regulatory changes or new	<p>Projected costs to an entity applying for a solar permit by rule (other than permit fees) are estimated as follows:</p> <p>Tier 1 (= <500kw or <2 acres or meeting categorical criterion): \$0</p> <p>Tier 2 (between Tier 1 & Tier 3): Approx. \$5,000 - \$10,000 (labor cost for desktop database surveys and potential discussions with state agencies)</p>

<p>regulations.</p>	<p>Tier 3 (>5 MW and >10 acres): Approx. \$50,000 - \$70,000 (includes cost for desktop and field surveys for both wildlife and cultural resources; discussions with state agencies)</p> <p>Costs are presented as 2010 dollars. Estimates could increase depending on several factors (e.g., specialized species surveys, wetland/stream delineations, phase II/III cultural surveys, etc., if the results of the requirements prescribed in the proposal indicate that follow-up measures are in order). These estimates were developed by a company with experience in developing solar energy projects.</p> <p>These cost estimates include reporting, recordkeeping, and administrative costs.</p> <p>The costs are expected to be the same for any individual or business (small or otherwise) that develops a project in the size or other categories addressed by this regulation.</p> <p>No development of commercial or residential real estate is expected to be necessitated as a direct consequence of the new regulation.</p>
<p>Beneficial impact the regulation is designed to produce.</p>	<p>The regulation, like the 2009 enabling legislation, is designed to facilitate development of solar energy while also protecting natural resources. Solar and other renewable-energy projects help reduce harmful air pollutants and our country's dependence on foreign oil, and help increase jobs and economic development related to construction and operation of solar projects.</p>

Alternatives

Please describe any viable alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in §2.2-4007.1 of the Code of Virginia, of achieving the purpose of the regulation.

DEQ and other regulatory authorities generally consider permit requirements on a case-by-case basis as each individual permit application is received. The natural-resource protections required of applicants who wish to construct and operate small solar energy projects in Virginia have heretofore been addressed in this fashion by the State Corporation Commission. In enacting this legislation, the Virginia General Assembly chose to direct DEQ to develop this permit by rule rather than adhering to the more traditional case-by-case alternative. In the current regulatory action, DEQ is considering only the permit-by-rule alternative mandated by the General Assembly.

Concerning provisions within this permit by rule, DEQ considered various alternatives on a large number of issues during the RAP process. By the end of the process, the RAP agreed on all issues set forth in this proposal. A few topics were complex enough to warrant extended discussion by RAP members. The RAP's conclusions and rationale regarding these issues are summarized as follows:

1. Applicability issues.

The Solar RAP began its deliberations by studying what constitutes a solar project and what solar technologies are currently feasible for Virginia.

After presentations by several knowledgeable solar experts and significant discussion, RAP members concluded that only photovoltaic (PV) technology is reasonably feasible to be developed in Virginia, at least for the four-year presumed lifespan of this proposed regulation. (The Governor's Executive Order requires that all regulations be re-visited every four years. In addition, members of the public may petition at any time for a regulation to be re-opened.) Consequently the provisions of the proposed Solar PBR are designed to address PV solar projects.

A question arose as to whether concentrated photovoltaic (CPV) technology differs significantly from PV in its potential impact on natural resources. A RAP member's staff researched the question and advised the RAP of their findings. Based on this research and the RAP's discussion, RAP members concluded that PV and CPV do not significantly vary with regard to potential impact on natural resources. RAP members agreed by consensus that it was appropriate for the Solar PBR to address PV and CPV under the same provisions.

By contrast, presentations to the RAP about other solar technologies led the RAP to conclude that at least some of these non-PV technologies could present significant risks to natural resources. Although it is unlikely that these other technologies could be developed in Virginia at the present time, changing technology may make them more feasible in the future. Further, it is possible that new solar technologies (of unknown characteristics) might be invented that could practicably be developed in Virginia.

The RAP did not want to foreclose development of non-PV technologies in Virginia. Even though the Solar PBR regulation could be amended in the future to accommodate other technologies, this process takes a considerable amount of time.

Therefore, the RAP recommended by consensus that the currently-proposed Solar PBR provide a "catch-all" paragraph in proposed 9VAC15-60-20 to allow development of other technologies to proceed, but with the following requirements: Solar projects utilizing other (non-PV) solar technologies must fulfill the requirements for wind projects (which are generally stricter than those being proposed for solar projects), unless (1) the owner or operator presents to the

department information indicating that the other solar technology presents no greater risk to natural resources than does PV technology, and (2) the department determines that it is appropriate for the project to meet only the Solar PBR requirements or some modification of either the Wind PBR or the Solar PBR, as prescribed by the department for that project.

RAP members believed that the foregoing provision would allow and even encourage development of new and different solar technologies in Virginia without risking significant adverse impacts to natural resources – risks that the RAP could not evaluate because they are as yet unknown. This “catch-all” provision does not state “up front” what all the PBR requirements will be, but for reasons the RAP considered valid.

2. Projects with de minimis impacts.

Although the 2009 statute does not explicitly address a “de minimis” standard for very small projects, under existing law the SCC’s regulations provide an exemption for all renewable-energy projects of 5 megawatts or less, across the board. The original Wind RAP members considered the “de minimis” issue to be important, and they discussed it at length. The middle tier of the “de minimis” provision was one of only two issues on which the Wind RAP did not reach consensus. Lacking RAP consensus on the matter, the department proposed as fair and appropriate a provision as possible, and that provision is now part of the Wind PBR. At this writing, the Wind PBR has been approved by the Governor and published in the Virginia Register with the following structure for “de minimis” and larger projects:

<u>Rated Capacity</u>	<u>Requirements</u>
= 500 kW	No notification or certification
> 500 kW to 5 MW	Notify DEQ & provide local-government certification of land-use ordinance compliance
> 5 MW to 100 MW	Satisfy all PBR requirements of 9VAC15-40-30 et seq.

Note: The middle tier (500 kw to 5 MW) was the category on which the Wind RAP did not reach consensus. All Wind RAP members believed that projects in the first tier (500 kW or less) should have no requirements under the PBR. All Wind RAP members thought that larger projects (third tier) should meet all the PBR requirements. Wind RAP members did not agree on the point at which all PBR requirements should kick in (i.e., the existence of and requirements encompassed by the middle tier).

The Solar RAP’s task was to help the department develop a permit by rule for solar energy projects that would balance the 2009 statute’s mandates to encourage renewable energy development and also protect natural resources. The Solar RAP focused on issues specific to solar energy. By the same token, the Solar RAP was implementing the same statute as was the Wind RAP, so it was appropriate for the Solar RAP to consider and, in some cases, build on the work of the Wind RAP.

In discussion of potential tiers of requirements for solar projects, the Solar RAP members did not question whether there should be reduced requirements for certain “de minimis” projects. They accepted that premise and focused on the criteria for defining the tiers, and the substantive requirements (if any) that developers of projects in each tier should meet.

RAP discussions revealed the basic understanding that the kind of solar projects which can realistically be developed in Virginia at the present time (PV and CPV) do not pose the kinds of threats to natural resources that wind projects may pose. That is, they do not rise over 400 feet

above the ground, do not utilize spinning rotors, etc. Solar panels tend to be relatively close to the ground or are mounted on structures such as buildings or over parking lots. Ground-mounted solar panels generally do not require footings that penetrate as far into the earth as utility-scale turbine foundations do, and solar panels may even be mounted on non-penetrating footers. Such factors would militate in favor of the Solar PBR's requiring a lesser degree of natural-resource protection than were deemed necessary for wind projects in the Wind PBR. PV and CPV were sometimes referred to in RAP meetings as "benign" technologies.

Whereas PV and CPV solar technology may be considered "benign," these projects may occupy a considerable amount of land. Information presented by a Solar RAP member who is actually developing a project in Virginia indicated that as much as 10 acres of land might be required to erect PV panels that would generate 1 MW of electricity in Virginia. That figure is larger than the acreage generally required to generate equivalent electricity in, say, the southwestern United States, where the solar resource is intense. Solar technology is continually improving, and acreage requirements are expected to diminish over time. Under current conditions, however, the RAP considered that as many as 50 acres of land might be required to generate 5 MW of electricity. RAP members from the Department of Historic Resources (DHR) and the Department of Game & Inland Fisheries (DGIF) pointed out that even a "benign" technology like PV might pose some risks to historic resources and wildlife because of the large land area involved. Acreage was a criterion of concern to these agencies and was therefore taken into account by the entire Solar RAP.

In discussions of potential "de minimis" tiers (Tiers 1 and 2) at the final Solar RAP meeting, all RAP members agreed on the following recommended graph:

	<u><i>Rated Capacity</i></u>	<u><i>Disturbance Zone</i></u>
<i>Tier 1</i>	<i>= 500 kW</i>	<i>= 2 acres</i>
<i>Tier 2</i>	<i>> 500 kW to = 5 MW</i>	<i>> 2 acres to 10 acres</i>
<i>Tier 3</i>	<i>> 5 MW to 100 MW</i>	<i>>10 acres</i>

As stated, DHR and DGIF were most concerned about the amount of land area disturbed by the project, since increased size might mean that more wildlife or historic resources could be affected. Since, however, the statute defines DEQ's authority in terms of capacity (i.e., 100 MW and smaller), it seemed appropriate to include references to rated capacity of the projects, and not just to acreage. It appeared appropriate for the RAP to seek to express the tiers in terms of both measures – rated capacity and acres disturbed.

At least one RAP member suggested that the provisions above should define Tier 1 and Tier 2 according to rated capacity OR acreage disturbed, "whichever is smaller." After the RAP meeting, DEQ staff set about editing the draft Solar PBR to reflect the RAP's recommendations. Staff could not find a drafting mechanism to carry out the concept of "whichever is smaller," because rated capacity and acreage are not like measures. They are more like "apples and oranges" than "apples and apples." In order to employ a term like "smaller," it appeared that the measures would have to be more comparable.

Staff considered addressing the dilemma by drafting the provisions along the following lines: [Tier 2] "rated capacity greater than 500 kW and less than or equal to 5 MW, so long as the disturbance zone does not exceed 10 acres." Language like this, however, did not appear desirable because it would render meaningless the rated capacity criterion. In a statute or regulation, every word should have meaning. If the RAP's "bottom line" intent was to define Tiers 1 and 2 in terms of acres disturbed, then references to rated capacity should probably be deleted altogether.

Accordingly, staff presented the RAP, via email, with two possible options for resolving the drafting dilemma regarding Tiers 1 and 2, along with potential pro's and con's of each option. Staff also invited RAP members to suggest other alternatives. The options were described as follows:

Option 1: AS CURRENTLY DRAFTED:

	<u><i>Rated Capacity</i></u>		<u><i>Disturbance Zone</i></u>
<i>Tier 1</i>	= 500 KW	or	= 2 acres
<i>Tier 2</i>	> 500 kW to = 5 MW	or	> 2 acres to 10 acres
<i>Tier 3</i>	> 5 MW to 100 MW	and	>10 acres

In the email, staff pointed out that the provisions as currently drafted do give weight to both the rated capacity criterion and the disturbed acres criterion. In that regard, they reflect the RAP's desire to include both criteria. If an applicant meets either criterion, then he falls within the specified tier. Staff further noted, however, that this language would allow a project to fall within Tiers 1 or 2, even if the project exceeded 2 acres or 10 acres, respectively. From a drafting and legal perspective, the provisions appeared to work, but they might not fully capture the RAP's intent or the sister agencies' concerns. Staff noted that this approach more nearly comports with the SCC's exemption of projects 5 MW or less, and to the Wind PBR's "de minimis" provisions. The intent of the 2009 statute appears to be that the PBR should make it "easier" rather than "harder" to develop renewable energy projects in Virginia, so maintaining an equivalent to the SCC's current 5 MW exemption would hold some logic.

Option 2: IF MODIFIED TO BASE TIERS ONLY ON ACRES DISTURBED:

	<u><i>Rated Capacity</i></u>	<u><i>Disturbance Zone</i></u>
<i>Tier 1</i>		= 2 acres
<i>Tier 2</i>		> 2 acres to 10 acres
<i>Tier 3</i>	Not to exceed 100 MW	>10 acres

In the email to RAP members, staff noted that deleting references to rated capacity was not ideal, in part because the statute speaks to MW in defining DEQ's authority. That is, DEQ has authority over projects with a rated capacity not exceeding 100 MW. It might be legally acceptable to define Tiers 1 and 2 in terms of acres only, however, as long as the 100 MW maximum rated capacity figure is retained for Tier 3. Projects in Tier 3 must satisfy all solar PBR criteria in proposed 9VAC15-60-30 et seq., one of which requires a professional engineer

to certify that the project does not exceed a rated capacity of 100 MW. Underlying this draft “de minimis” provision was staff’s assumption that >100 MW cannot feasibly be generated on 10 acres or less. If this assumption proved to be questionable from a legal perspective, the proviso “not to exceed 100 MW” might be added to the description of each tier. Apart from these legal considerations, staff also pointed out that pinning the tier definitions only to disturbed acres would not capture the RAP’s recognition of both criteria. The approach would be considerably more restrictive than the SCC’s exemption of projects = 5 MW under existing law, since the RAP heard testimony that 10 acres might currently be required to generate 1 MW of electricity. The approach would, however, capture the state agencies’ concerns about possible effects on historic resources or wildlife.

The RAP member from DHR promptly responded to this email that DHR could live with either Option 1 or Option 2. This response was particularly significant given DHR’s sensitivity to the number of acres disturbed by a solar project. Staff shared DHR’s response with the entire RAP and reframed the request for RAP input as follows: Contact DEQ by the stated time and date if you cannot live with Option 1. Several RAP members affirmatively expressed their support for Option 1, and no RAP member expressed disagreement with Option 1. Consequently, Option 1 became the consensus recommendation of the Solar RAP, and no subsequent RAP meeting was convened to discuss the issue further.

Proposed 9VAC15-60-130 (Part III) describes the requirements for Tiers 1 and 2, and proposed 9VAC15-60-30 et seq. (Part II) describes the requirements for Tier 3.

The requirements agreed on by the RAP for Tier 2 (projects with rated capacity = 500 kW or disturbance zone = 2 acres) are noteworthy. Members of the original Wind RAP struggled to find appropriate criteria for this middle tier (cf. Town Hall 03 for the Wind PBR). The majority of Wind RAP members believed that wind projects in this category should not have to perform the full-blown PBR if they performed a Phase I environmental audit or some similar form of “fatal flaw” analysis. Even after many days of dedicated discussion and effort, the Wind RAP was not able to reach consensus on how to express requirements for Tier 2 projects. The Solar RAP resolved this challenging issue as follows:

For Tier 2 projects in the proposed Solar PBR (> 500 kW or > 2 acres to 10 acres), an applicant must notify the department and provide certification by the local government that the project complies with land-use ordinances. This requirement is the same as for Tier 2 of the Wind PBR. In addition, however, the applicant for a project in Tier 2 of the Solar PBR must certify in writing to the department that he has performed the prescribed desktop analysis for threatened and endangered (T&E) wildlife species and for known Virginia Landmarks Register (VLR)-listed and VLR-eligible historic resources. The desktop requirement might be analogized to the Wind RAP’s desire to require a “fatal flaw” analysis.

Explanation of Solar PBR Tier 2 requirements: With regard to **wildlife**, the Tier 2 Solar PBR provision requires the applicant to certify that he has performed a desktop survey of T&E species within the disturbance zone by consulting DGIF’s Virginia Fish and Wildlife Information Service web-based application or DGIF’s subscriber-based Wildlife Environmental Review Map Service. DGIF, which is the state’s lead wildlife agency, believes that these databases accurately reflect all T&E species. If the applicant discovers that T&E species are thought to exist within his proposed disturbance zone, it is the applicant’s choice as to how he will proceed. Knowing that DGIF and the US Fish & Wildlife Service are authorized by statute to prosecute parties for incidental “takes” of T&E species, the applicant may decide to locate his project so as to avoid these areas. He may voluntarily decide to consult with DGIF about that agency’s

preferred course of action, just as a developer of any other type of project might do. DGIF's authority in a non-"takings" setting is advisory in nature. Thus, the proposed Tier 2 wildlife provision does not set substantive regulatory standards, nor does it trigger a regulatory review by DEQ that might necessitate DEQ's requiring payment of a PBR fee. This T&E desktop survey may be performed by a non-professional.

With regard to **historic resources**, the Tier 2 provision likewise requires the applicant to certify that he has performed a desktop survey of databases that can be performed by a non-professional. Although this fact may seem unremarkable at first blush, it marks a significant departure from the way historic resources must be analyzed in other settings, including the Tier 3 Solar PBR provisions. Whereas the databases for identification and mapping of T&E wildlife species are believed to be complete, the databases for identification and mapping of historic resources is believed to be *incomplete*. DHR representatives indicated that historic resources may well exist in some areas of the state that no expert has yet analyzed. Known historic resources are listed in the Virginia Landmarks Registry (VLR) or identified in DHR's databases as "eligible" for listing in the VLR. When potential architectural or archaeological resources are discovered on a site, only a qualified professional meeting the Department of Interior's (DOI's) Standards for Archaeology and Historic Preservation can determine whether the item has sufficient historic value to qualify for VLR listing. For example, the threshold requirement for an architectural historic resource is that the structure be over 50 years old; however, not every building of that age will be a historic resource as defined under DHR's (and the PBR) regulations; only a qualified professional can make that determination. Consequently, for Tier 3 projects, a DOI-qualified professional must perform the desktop and field surveys of historic resources (see proposed 9VAC15-60-40 B). In this way, harm to as-yet-unidentified historic resources can be avoided or mitigated. By contrast, the compromise suggested by DHR for Tier 2 solar projects allows an applicant to avoid the cost of hiring a qualified professional by limiting the scope of inquiry to already-identified historic resources. Under Tier 2, the applicant is not charged with discovering and analyzing as-yet-unidentified historic resources. As with the Tier 2 wildlife provision, an applicant who discovers known resources in his proposed disturbance zone is encouraged voluntarily to consult with the state's lead agency – in this case, DHR – to receive informal advice. Again, the Tier 2 historic resources provision does not trigger a PBR regulatory review or fee from DEQ. The Solar RAP agreed that this approach represented a reasonable, low-cost method for an applicant appropriately to take known historic resources into account.

Solar developers on the RAP pointed out that small size – whether by rated capacity or by acres disturbed – is not the only aspect of solar projects that warrants reduced or "de minimis" PBR requirements. There are also **categories** of projects that represent minimal or no risk to natural resources, regardless of the size of the project. These categories include solar projects mounted on private residences, mounted on buildings, mounted over existing parking lots, or utilizing integrated PV materials. The RAP accepted DHR's suggestion that the PBR stipulate that the buildings must be less than 50 years old to qualify for the categorical treatment. By consensus, the RAP agreed that Tier 1 of the proposed Solar PBR should require no notification or certification for projects that are either very small (= 500 kW or = 2 acres) or that fall within one of the aforementioned categories, regardless of size. (See proposed 9VAC15-60-130 A.) State agencies and other RAP members agreed that solar panels on a private residence do not rise to a level of impact to warrant PBR regulatory scrutiny, no matter the age of the residence. The RAP also reasoned that a non-residential building or parking lot on which the solar project will be mounted has probably caused whatever impacts to wildlife or historic resources there might be (if any), and not the solar project itself. The RAP was careful, however, to omit non-residential structures over 50 years old from these categories. If a project involves a non-

residential building over 50 years of age – which could possibly prove to be a historic resource – then the project will be addressed pursuant to the tiered requirements according to rated capacity or disturbed acreage. For example, a solar project with a rated capacity of 1 MW that is mounted on a 60-year-old warehouse will be addressed as a Tier 2 project pursuant to 9VAC15-60-130 B, and not as a Tier 1 project pursuant to 9VAC15 -60-130 A. If the warehouse is shown by the Tier 2 required desktop survey to be a VLR-listed or VLR-eligible historic resource, then the applicant and the public will be aware of that information.

In summary, the RAP recommended by consensus that certain sizes and categories of projects are “de minimis” in nature and do not present sufficient risk to natural resources that they warrant performance a full-blown PBR. As set forth in Part III of the proposed Solar PBR, the RAP recommended that no notification or certification be required for projects that fulfill any one of the following criteria: has a rated capacity = 500 kW, has a disturbance zone = 2 acres, or falls into at least one of the listed criteria (mounted on a private residence, etc.). (See proposed 9VAC15-60-130 A.) The RAP often referred to this group as Tier 1. The RAP also recommended that a developer of a project with a rated capacity > 500 kW to 5 MW or a disturbance zone >2 acres to 10 acres should notify the department, provide local-government certification of land-use compliance, and certify to the department in writing that he has performed the prescribed desktop surveys of T&E species and of known VLR-listed and VLR-eligible historic resources. (See proposed 9VAC15-60-130 B.) The RAP often referred to this group as Tier 2.

The RAP recommended by consensus that projects that have both a rated capacity >5 MW and a disturbance zone >10 acres comply with the full-blown Solar PBR requirements set forth in Part III of the proposed regulation. (See proposed 9VAC15-60-30 et seq.) The RAP often referred to this group as Tier 3.

3. Tier 3 Projects: Requirements for Analysis, Mitigation, and Post-Construction Monitoring

The 2009 statute requires the applicant to analyze the beneficial and adverse impacts of the proposed project on natural resources. Further, if the information collected pursuant to these analyses indicates that significant adverse impacts to wildlife or historic resources are likely, then the applicant must submit a mitigation plan detailing actions he will take to avoid, minimize, or otherwise mitigate such impacts, and to measure the efficacy of those actions. One of the RAP's chief tasks was to recommend to DEQ appropriate standards for DEQ to use in determining that significant adverse impacts are likely and how these impacts will be mitigated. In practice, these standards for determining significant adverse impact become mandatory “triggers” for requiring the applicant to develop and submit a mitigation plan.

In considering what analyses, mandatory triggers, and mitigation plans were appropriate for solar projects, one of the alternatives examined by the Solar RAP was the requirements set forth in the Wind PBR. In almost every case, the Solar RAP determined that the likely impacts of solar projects on natural resources were far less than those anticipated from wind projects. Consequently, the proposed Solar PBR generally has fewer and less complex requirements in each section – analysis, triggers, and mitigation – than does the Wind PBR. These provisions are explained in the Detail of Changes section of this document. Summary explanations appear as follows:

Analysis: For wildlife, the proposed Solar PBR requires only desktop surveys, whereas the Wind PBR requires both desktop surveys and field surveys. The Solar RAP believed that the

wildlife impacts of solar projects are much less than those of wind projects, so RAP members deemed that a more cursory analysis is appropriate.

By contrast, the analyses required for historic resources are much the same as those required for wind projects. The Solar RAP recommended that, for projects involving over 5 MW of rated capacity and over 10 acres of disturbed land, a DOI-qualified expert should survey and analyze potential historic resources and the potential impacts of the proposed project on them. The RAP concluded that the large number of disturbed acres involved in this category of solar projects increased the chances of potential impact on historic resources, and only a qualified professional can adequately assess these resources, which may not yet have been discovered or analyzed. (Please see discussion above relating to historic resources in the Tier 2 “de minimis” level.)

Determination of likely significant adverse impacts (mitigation “triggers”): For wildlife, the mitigation triggers are only (1) T&E wildlife within the project’s disturbance zone, (2) a disturbance zone on or within ½ mile of a known sea turtle nesting beach, or (3) a disturbance zone located in one of several specified Coastal Avian Protection Zones (CAPZ). This list is considerably reduced from the list of wildlife triggers for wind projects (which were (1) the existence of bats or a hibernaculum within the disturbance zone, (2) T&E species within the disturbance zone, (3) a sea turtle nesting beach within one mile, or (4) studies or location within any CAPZ indicating likely significant adverse impacts on avian resources).

Background of CAPZ: The Coastal Avian Protection Zones (CAPZ) map was created chiefly by scientists from DGIF and the Center for Conservation Biology under the auspices of the Offshore/Coastal Wind RAP during the summer of 2010. The Offshore RAP recommended adoption of the map, the descriptions of each zone, and the listing of avian resources found in each zone. This information became part of the Wind PBR, applicable to wind projects in the CAPZ areas of state waters and coastal land areas. The map and related information will be housed on Coastal GEMS, a web portal maintained by the Coastal Zone Management Program (CZMP) at DEQ. The Offshore RAP believed CAPZ designations were important because of the critical importance of Virginia’s coastal areas to migratory birds. The Solar RAP agreed with the concept. Solar RAP members unanimously agreed that the Solar PBR should require the desktop analysis (i.e., reference to the CAPZ map to determine if the proposed solar project will be located in a specified CAPZ area) and mitigation that are required of the “de minimis” level of wind projects. The CAPZ areas included in the proposed Solar PBR are the ones in which scientists have already performed extensive research and can attest to the critical importance of the avian resources in the areas. For both the Wind PBR and the Solar PBR, applicants are entitled to rely on that body of existing research. Because research on the impacts of wind or solar projects in these CAPZ areas is almost non-existent, members of both RAP’s agreed that a contribution toward research would be an appropriate mitigation. It is hoped that such research will enable the department and future RAP’s to craft analysis and mitigation provisions with greater accuracy.

The triggers for historic resources mitigation were the same as those provided in the Wind PBR, for reasons explained above.

Mitigation: With respect to wildlife, the mitigation requirements for likely impacts on T&E species and on sea turtle nesting beaches are the same in the Solar PBR as in the Wind PBR. The Solar RAP believed that an applicant’s approach to mitigating for impacts to T&E and sea turtle nesting should be consistent across renewable media. Required mitigation for solar

projects in specified CAPZ, however, is a contribution toward avian research of \$1000 per MW of rated capacity, which is equivalent to the Wind PBR's requirement for "de minimis" projects. The Wind PBR's mitigation requirement for the top tier of projects in CAPZ is significantly greater than \$1000 per MW. This reduced mitigation requirement in CAPZ is an example of the Solar RAP's recognition that solar projects generally have less impact on wildlife resources than do wind projects.

Especially because there are operational measures like curtailment that are proven to reduce bat fatalities, the Wind PBR requires post-construction monitoring of the mitigation plan's effectiveness. The Solar RAP concluded that solar projects do not present any special risk to bats, so there is no such requirement for post-construction monitoring in the Solar PBR.

With respect to historic resources, the mitigation requirements are the same for the top tier of solar projects as for the top tier of wind projects. Again, the reasons are discussed above under the "de minimis" section.

In summary, the Solar RAP recommended – with agreement from DGIF – that most of the provisions for wildlife analysis, mitigation triggers, and mitigation plans be considerably less stringent than those required in the Wind PBR. The Solar RAP concluded that the potential impacts of solar projects on wildlife resources do not warrant a higher level of protection than those they recommended and that are reflected in the proposed Solar PBR. For historic resources, the Solar RAP agreed with DHR that provisions in the Solar PBR and Wind PBR should be comparable for the largest category of projects. Not all historic resources in our state have been identified and analyzed. For projects of this scope, it is appropriate for a qualified expert to identify and analyze potential historic resources so that they can be adequately protected.

DEQ is soliciting further public input and will consider any alternatives and issues presented by the public during the upcoming comment period on this proposal that meet the goals of the statute, the regulation, and the agency.

Regulatory flexibility analysis

Please describe the agency's analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; 3) the consolidation or simplification of compliance or reporting requirements; 4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.

The permit by rule, in and of itself, is a regulatory method that is considered a less burdensome, faster approach for small businesses and indeed for all applicants.

Small businesses, and all other applicants, whose projects are eligible for the proposed *de minimis* provisions will have no reporting requirements or greatly reduced reporting requirements.

Since there is no accurate way to predict what type or size of entity will apply for this permit by rule, it is difficult to analyze impacts on small businesses *per se*.

The RAP and DEQ worked very hard to see that all requirements in the proposal are necessary and reasonable, within the mandates of the enabling legislation.

Public comment

Please summarize all comments received during public comment period following the publication of the NOIRA, and provide the agency response.

No comments were received in response to the publication of the NOIRA.

Commenter	Comment	Agency response
None	None	Not applicable

Prior to publishing the NOIRA, DEQ published a notice requesting all persons who were interested in serving on the Solar Regulatory Advisory Panel (RAP) to contact the department. From the pool of stakeholders who responded to DEQ's notice, DEQ convened a RAP to assist DEQ in developing this proposal. Following is a listing of the members of the Solar RAP.

State Government

DCR – Tom Smith; Danette Poole, alternate

DGIF – Ray Fernald

DHR – Julie Langan; Roger Kirchen, alternate

VMRC – Tony Watkinson

DOF – Ron Jenkins; Brad Williams, alternate

DMME – Ken Jurman
 VDACS – Stephen Versen; Larry Nichols, alternate
 DEQ – James Golden and Rick Weeks

Industry

John Daniel, Troutman Sanders/Invenergy
 Bob Bisha, Dominion; Emil Avram & Sarah Cosby, alternates
 Larry Jackson, Appalachian Power/AEP; Ron Jefferson, alternate
 Scott Sklar, The Stella Group
 Richard Good, Solar Services; Jeff Ryan, alternate
 Cathy Snyder, Lockheed Martin; Jason Leuck, alternate
 John Hart, AEC Idom

Environmental Organizations

TNC – Nikki Rovner
 PEC – Dan Holmes; Rob Marmet, alternate

Academia

Debra Jacobson, George Washington University Solar Institute

Local Government

City of Norfolk – Larry Lombardi
 Northampton County/Exmore – Robert Meyers
 Spotsylvania County/Fredericksburg – Richard Street; Troy Tignor, alternate
 VACO – Larry Land

Ex officio

Carol Wampler, RAP Leader, DEQ

The first, introductory meeting of the Solar RAP occurred on June 29, 2010. At both the initial June 29 meeting and the second meeting on July 20, individual experts and a panel of experts made presentations concerning what constitutes a solar project with respect to photovoltaics and various other solar technologies. The potential natural-resource impacts of each technology were explored, and the RAP considered which solar technologies can feasibly be developed in Virginia at the present time. Once RAP members had reached a common understanding of solar technology and potential resource impacts, they were ready to convert these understandings into recommended PBR provisions designed to protect natural resources adequately and reasonably. No public comments were received in response to the NOIRA, so RAP members considered issues raised among themselves and by members of the public who chose to attend RAP meetings. At its third and fourth meetings (September 9 and November 9), the RAP discussed substantive issues. Between meetings, staff circulated draft provisions which had been developed with input from wildlife and historic-resources experts at DEQ's sister agencies. As a result of the diligent and dedicated work of the RAP, consensus was achieved on all substantive issues by the conclusion of the fourth meeting. DEQ staff then edited the draft PBR provisions to reflect the RAP's recommendations and circulated that draft to RAP members. RAP members expressed no objections to these provisions, so an additional RAP meeting was not convened to discuss the draft further. Because of this exceptional degree of cooperative deliberation, DEQ staff was able to present to the DEQ director a draft proposal to which no RAP member had expressed objection. As prescribed by the 2009 statute, the renewable energy PBR's are the first DEQ permit regulations to be approved by the director,

rather than by a citizen board. This Solar PBR proposal represents the DEQ director's decisions based on the statutory intent of the 2009 legislation, the extensive record developed during the RAP process, ongoing guidance from the Attorney General's office, and the agency's purpose and capabilities.

Family impact

Please assess the impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

The Department does not expect that the regulation will have a direct impact on the institution of the family and family stability.

Detail of changes

Please detail all changes that are being proposed and the consequences of the proposed changes. If the proposed regulation is a new chapter, describe the intent of the language and the expected impact if implemented in each section. Please detail the difference between the requirements of the new provisions and the current practice or if applicable, the requirements of other existing regulations in place.

If the proposed regulation is intended to replace an emergency regulation, please list separately (1) all provisions of the new regulation or changes to existing regulations between the pre-emergency regulation and the proposed regulation, and (2) only changes made since the publication of the emergency regulation.

Proposed 9 VAC 15-60 is a new chapter designed to implement the statutory mandates of Virginia 2009 Acts of Assembly Chapters 808 and 854 ("the 2009 statute"), which move permitting authority for environmental requirements of small renewable energy projects from the State Corporation Commission (SCC) to the Department of Environmental Quality (DEQ).

The legislation requires DEQ to develop "permits by rule," which are streamlined permitting vehicles currently utilized in DEQ's solid waste division, and which set forth "up front" what requirements all applicants must meet in order to be covered by the permit by rule. The legislation further requires that the regulations include standards necessary to protect the Commonwealth's natural resources. These proposed regulations seek to balance the two statutory goals – (1) to streamline and facilitate development of small renewable energy projects and (2) to protect natural resources.

Pursuant to the statute's provisions, DEQ determined that more than one permit by rule will be necessary to address all renewable media. The current proposal addresses solar energy projects.

HOW THE PROPOSED REGULATION COMPARES WITH CURRENT LAW:

Under current law, developers of proposed wind energy projects must apply to the SCC, where hearings are held to determine what natural-resource protections will be required at the proposed project site. The SCC's determination is made on a case-by-case basis. The SCC receives input from the natural-resource agencies regarding the agencies' recommendations for needed resource protections for a proposed project. To the best of our knowledge, there are few guidelines in place to inform either the agencies' recommendations or the SCC's acceptance or rejection of those recommendations. There are no time limitations on how long the SCC process may take.

Under the 2009 statute and these proposed solar regulations, applicants must apply to DEQ for a permit by rule regarding the construction and operation of the proposed solar energy project. The proposed regulation sets forth, in detailed fashion, what all applicants must do to gain permit coverage. The combination of the proposed regulation plus DEQ's guidance will fully explain how each standard must be achieved. The proposal also sets forth the requirement that DEQ process that application and render a decision to the applicant within 90 days. The other natural-resource agencies will continue to have input into this process, but in a different fashion than under existing law. All of the natural-resource agencies were represented on the Regulatory Advisory Panel (RAP) that developed recommendations for this regulation. Further, these agencies will be consulted by DEQ when DEQ makes a decision about each permit application, as required by the 2009 statute. By these methods, input from the natural-resource agencies will continue to be a vital part of the permit decision, but within carefully defined structures and time frames.

HOW NEW REGULATIONS ADDRESS GOALS OF INDUSTRY AND OF ENVIRONMENTAL INTERESTS:

Nationwide, representatives of renewable-energy industries generally articulate three major needs when they seek governmental permission to develop a project: certainty, timeliness, and reasonableness. As stated above, the proposed regulation will provide a very high degree of certainty and timeliness. As for reasonableness, the proposed provisions also provide the most appropriate and reasonable standards the RAP and DEQ could develop to balance facilitating renewable energy with protecting natural resources, in compliance with the mandates of the statute. Accordingly, DEQ believes that the proposed regulations put developers in a better position than did Virginia existing law. Several solar developers on the RAP noted that other states do not generally regulate the natural-resource impacts of solar projects in as formalized a manner as required by the 2009 statute; however, they expressed support for the Solar PBR proposal as being fair, appropriate, and reasonable – what, in their view, responsible developers across the country should do.

The statute and proposed regulations also address resource-protection needs often cited by environmental advocacy groups and by DEQ's sister agencies as being top priorities. Under the new regimen, significant resource protections will be required for every single project, even if no advocacy group has the time or resources to comment on an individual application. That is the nature of a permit by rule -- to lay out uniform, across-the-board standards for all projects. Virginia's 2009 statute goes further than most other states' standards do in requiring certain natural-resource protections, and the proposed regulations implement those protections, as set forth below. Further, DEQ has an effective apparatus for regulatory enforcement, which some observers believe the SCC lacks. Thus, the proposed regulation achieves many of the goals of environmental groups with respect to renewable energy projects.

In summary, the statute and these proposed regulations provide a number of advantages, for both industry and environmental interests. They help promote development of renewable energy, which is an environmental and economic benefit to all citizens.

HOW THE NEW PERMIT BY RULE FITS INTO LOCAL, STATE, AND FEDERAL REQUIREMENTS:

The permit by rule proposal implements the requirements of the 2009 legislation, which defines natural-resource protections at small solar energy projects in Virginia. For the most part, the resources enumerated in the 2009 legislation are not the subject of regulation under current law, but rather are the subject of advisory consultations with natural-resource agencies other than DEQ. DEQ is a regulatory agency. The 2009 statute makes clear that DEQ's regulatory environmental permits (air, water, waste, wetlands, etc.), as well as those regulatory permits of any other agency, if relevant, are still required. The 2009 statute requires that the permit by rule applicant submit to DEQ certification that he has obtained, or applied for, these other environmental permits. The 2009 statute does not abrogate these other permit requirements. Nor does it abrogate local requirements, as reflected by the fact that the 2009 statute requires the applicant to submit to DEQ certification that he has complied with local land-use ordinances. Since the 2009 statute does not explicitly speak to federal requirements, the proposed regulation does not reference federal requirements either. It seems clear, however, that the applicant must comply with requirements of federal agencies.

Section Number	Proposed Requirements	Rationale and Consequences
10	<p>Definitions.</p> <p>The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:</p> <p>"Applicant" means the owner or operator who submits an application to the department for a permit by rule pursuant to this chapter.</p> <p>"Archive search" means a search of DHR's cultural resource inventory for the presence of previously recorded archaeological sites and for architectural structures and districts.</p> <p>"Coastal Avian Protection Zones" or "CAPZ" means the areas designated on</p>	<p>The definitions explain meanings of relevant terms as these terms are used in the proposed regulation. In a number of instances, the definitions reflect specific decisions debated and recommended by the RAP, and these definitions are not intended to have application beyond the reach of the proposed regulation. Where possible, the RAP used definitions taken from the natural-resource agencies' existing laws and regulations.</p> <p>The definition of "archive search" was suggested by DHR. It represents an abbreviated, low- or no-cost survey that can be performed by a non-professional. Unlike the Analysis requirement for solar projects subject to Part II of this proposed regulation, the archive search does not involve an obligation to discover or analyze as-yet-unidentified historic resources. DHR and the other members of the Solar RAP believed that this requirement was sufficient and appropriate for projects falling within the purview of 9VAC15-60-130 B.</p> <p>The CAPZ map and related regulatory provisions were originally developed and recommended by</p>

	<p>the map of "Coastal Avian Protection Zones" generated on the department's Coastal GEMS geospatial data system (9VAC15-60-120 C 1).</p> <p>"Concentrating Photovoltaics" or "CPV" means PV systems with equipment to focus or direct sunlight on the PV cells. For purposes of this chapter, CPV is included in the definition of PV.</p> <p>"Department" means the Department of Environmental Quality, its director, or the director's designee.</p> <p>"DCR" means the Department of Conservation and Recreation.</p> <p>"DGIF" means the Department of Game and Inland Fisheries.</p> <p>"DHR" means the Department of Historic Resources.</p> <p>"Disturbance zone" means the area</p>	<p>the Offshore/Coastal Wind RAP. These concepts were created chiefly by scientists from DGIF and the Center for Conservation Biology for use in DEQ's renewable energy regulations for projects located in nearshore (i.e., state) waters and on coastal land areas. The Solar RAP determined that no solar projects can be feasibly constructed in state waters, at least for the foreseeable future, that are large enough or of a character to trigger any of the requirements of this proposed Solar PBR. Accordingly, this proposal contains no definitions or other provisions relating to solar projects in state waters. The Solar RAP did believe, however, that solar projects might be feasibly constructed on coastal land areas, which might include some areas within the CAPZ, and that these projects might pose a risk to avian resources. For this reason, the proposal contains definitions and other provisions applicable to solar projects located in certain CAPZ.</p> <p>RAP members researched and discussed whether PV and CPV technology presented different potential risks to wildlife or historic resources. The RAP concluded that it did not and recommended that PV and CPV be treated the same under the solar PBR regulation.</p> <p>All definitions relating to PV are based on definitions of these terms found on the Department of Energy (DOE) website. They were reviewed and approved by the Solar RAP, which included a number of experts in the solar development industry.</p>
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<p>within the site directly impacted by construction and operation of the solar energy project, and within 100 feet of the boundary of the directly impacted area.</p> <p>"Historic resource" means any prehistoric or historic district, site, building, structure, object, or cultural landscape that is included or meets the criteria necessary for inclusion in the Virginia Landmarks Register pursuant to the authorities of § 10.1-2205 of the Code of Virginia and in accordance with 17VAC5-30-40 through 17VAC5-30-70.</p> <p>"Integrated PV" means photovoltaics incorporated into building materials, such as shingles.</p> <p>"Interconnection point" means the point or points where the solar energy project connects to a project substation for transmission to the electrical grid.</p> <p>"Other solar technologies" means materials or devices or methodologies of producing electricity from sunlight other than PV or CPV.</p> <p>"Natural heritage resource" means the habitat of rare, threatened, or endangered plant and animal species, rare or state significant natural communities or geologic sites, and similar features of scientific interest benefiting the welfare of the citizens of the Commonwealth.</p> <p>"Operator" means the person responsible for the overall operation and management of a solar energy project.</p> <p>"Owner" means the person who owns all or a portion of a solar energy project.</p> <p>"Parking lot" means an improved area, usually divided into individual spaces</p>	<p>The definition of "disturbance zone" is important because the proposal prescribes certain environmental analyses or procedures that the applicant must perform within this area. Analyses and protections required for the disturbance zone are generally more detailed and stricter than those for the larger surrounding area or "site."</p> <p>Since the proposal is a state regulation, the RAP agreed that it was appropriate to utilize a Virginia definition of "historic resource."</p> <p>As noted in the "Alternatives" section of this document, the Solar RAP concluded that only PV and CPV technologies are practicable in Virginia at the present time. They wanted to provide, however, for the contingency that other technologies may become feasible in the future.</p> <p>The definition of "parking lot" was suggested by</p>
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	<p>and covered with pavement or gravel, intended for the parking of motor vehicles.</p> <p>"Permit by rule" means provisions of the regulations stating that a project or activity is deemed to have a permit if it meets the requirements of the provision.</p> <p>"Person" means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, county, city, town, or other political subdivision of the Commonwealth, any interstate body, or any other legal entity.</p> <p>"Photovoltaic" or "PV" means materials and devices that absorb sunlight and convert it directly into electricity by semiconductors.</p> <p>"Photovoltaic cell" or "PV cell" means a solid state device that converts sunlight directly into electricity. PV cells may be connected together to form PV modules, which in turn may be combined and connected to form PV arrays (often called PV panels).</p> <p>"Photovoltaic system" or "PV system" means PV cells, which may be connected into one or more PV modules or arrays, including any appurtenant wiring, electric connections, mounting hardware, power-conditioning equipment (inverter), and storage batteries.</p>	<p>DHR to assist the RAP in defining one of the categories of projects that the group agreed should not trigger any certification or notification requirements. The term is utilized in proposed 9VAC15-60-130 A.</p> <p>Although the 2009 statute directs DEQ to develop permits by rule for renewable energy projects, the term "permit by rule" had never been defined in either statute or regulation until promulgation of the Wind PBR. "Permit by rule" is a permitting vehicle utilized in DEQ's solid waste permitting programs. Both the Wind RAP and the Solar RAP adhered as closely as possible, given all the 2009 statute's provisions, to the permit by rule model from solid waste in developing standards for the current permit by rule. The regulatory definition is a new one, but it conforms to DEQ's practices for permits by rule in the solid waste program.</p>
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<p>"Pre-construction" means any time prior to commencing land-clearing operations necessary for the installation of energy-generating structures at the small solar energy project.</p> <p>"Rated capacity" means the maximum capacity of a solar energy project based on Photovoltaic USA Test Conditions (PVUSA Test Conditions) rating.</p> <p>"Site" means the area containing a solar energy project that is under common ownership or operating control. Electrical infrastructure and other appurtenant structures up to the interconnection point shall be considered to be within the site.</p> <p>"Small renewable energy project" means (i) an electrical generation facility with a rated capacity not exceeding 100 megawatts that generates electricity only from sunlight, wind, falling water, wave motion, tides, or geothermal power, or (ii) an electrical generation facility with a rated capacity not exceeding 20 megawatts that generates electricity only from biomass, energy from waste, or municipal solid waste.</p> <p>"Small solar energy project," "solar energy project," or "project" means a small renewable energy project that (i) generates electricity from sunlight, whose main purpose is to supply electricity, consisting of one or more PV systems and other appurtenant structures and facilities within the boundaries of the site; and (ii) is designed for, or capable of, operation at a rated capacity equal to or less than 100 megawatts. Two or more solar</p>	<p>Members of the Solar RAP – especially solar developers and the representative from DMME – recounted that there has been significant controversy in the solar industry concerning the nameplate rated capacity of solar panels or systems as provided by some manufacturers. For purposes of granting certain tax credits, the federal government requires input from a third party. Hence the existence of PVUSA Test Conditions. The RAP recommended that this regulation adopt this same meaning of “rated capacity” as that used by the federal government.</p> <p>This is the definition of “small renewable energy project” set forth in the 2009 statute.</p> <p>The definition of “small solar energy project” includes a <i>de minimis</i> exemption for projects equal to or less than 5 megawatts, equal to or less than 2 disturbed acres, or meeting certain categorical criteria. Under current law, the SCC’s regulations provide a 5-megawatt exemption for all renewable energy projects. Although the 2009 statute does not explicitly grant DEQ authority to define a <i>de minimis</i> exemption, the intent of the statute is clearly to make development of renewable energy projects easier, not harder. This proposed regulation</p>
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	<p>energy projects otherwise spatially separated but under common ownership or operational control, which, if connected to the electrical grid, are connected to the electrical grid under a single interconnection agreement, shall be considered a single solar energy project. Nothing in this definition shall imply that a permit by rule is required for the construction of test structures to determine the appropriateness of a site for the development of a solar energy project.</p> <p>"T&E," "state threatened or endangered species," or "state-listed species" means any wildlife species designated as a Virginia endangered or threatened species by DGIF pursuant to the § 29.1-563-570 of the Code of Virginia and 4VAC15-20-130.</p> <p>"VLR" means the Virginia Landmarks Register (9VAC15-60-120 B 1).</p> <p>"VLR-eligible" means those historic resources that meet the criteria necessary for inclusion on the VLR pursuant to 17VAC5-30-40 through 17VAC5-30-70 but are not listed in VLR.</p> <p>"VLR-listed" means those historic resources that have been listed in the VLR in accordance with the criteria of 17VAC5-30-40 through 17VAC5-30-70.</p> <p>"Wildlife" means wild animals; except, however, that T&E insect species shall only be addressed as part of natural heritage resources and shall not be considered T&E wildlife.</p>	<p>therefore carries over a similar scheme of no or greatly reduced requirements, so that constructing and operating a solar project is not harder for developers, especially for individuals and small businesses. The proposed <i>de minimis</i> levels are discussed more fully in the "Alternatives" section of this submission.</p> <p>This definition of "T&E" purposely focuses on those T&E species designated by DGIF, and omits T&E insects designated by VDACS. See note below regarding definition of "wildlife."</p> <p>Background information discussed by the Wind RAP and accepted by the Solar RAP: Theoretically, a simple word like "wildlife" should be easy to define; however, the RAP discovered that quite the opposite is true. The Wind RAP reviewed numerous definitions from both state and federal laws and regulations, discussed numerous related issues and sub-issues, and finally concluded it best to use a broad, general definition. Details like "non-native," "exotic," "undomesticated," etc. will be addressed in DEQ's guidance as needed.</p> <p>The Wind RAP, including representatives of the Virginia Department of Agriculture and</p>
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		<p>Consumer Services (VDACS) and of DGIF, agreed that T&E insects should be treated as part of Natural Heritage Resources and not as wildlife. This approach is consistent with how T&E plants and insects are addressed under VDACS' law as it applies to all development projects. That is, developers consult DCR's mapping of Natural Heritage Resources. If habitat for T&E plants or insects is found on the proposed development site, then the developer consults with VDACS. Pursuant to VDACS' law, landowners and persons acting with the landowner's explicit permission – who could include developers who lease land for wind energy projects – can take any action they deem appropriate on their own land. This proviso to the definition of “wildlife” is designed to prevent the presence of T&E insects from becoming an automatic, mandatory trigger for wildlife mitigation under the proposed regulation. This information was summarized for the Solar RAP, whose members agreed with this approach.</p>
20	<p>Authority and applicability.</p> <p>A. This regulation is issued under authority of Article 5 (§ 10.1-1197.5 et seq.) of Chapter 11.1 of Title 10.1 of the Code of Virginia. The regulation contains requirements for solar-powered electric generation projects consisting of PV systems and associated facilities with either no connection to the electrical grid or a single interconnection to the electrical grid, that are designed for, or capable of, operation at a rated capacity equal to or less than 100 megawatts.</p> <p>B. The department has determined that a permit by rule is required for small solar energy projects with a rated capacity greater than five (5) megawatts and a disturbance zone greater than 10 acres, provided that the projects do not otherwise meet the criteria for Part III (9VAC15-60-130) of this chapter; and this regulation contains the permit by rule provisions for these projects in Part II (9VAC15-60-30 et seq.) of this chapter.</p>	<p>This section reiterates the statute's provision that the permit by rule shall apply to solar projects of 100 megawatts and smaller. The SCC retains authority over projects larger than 100 megawatts.</p> <p>Please see the “Alternatives” section of this document for a discussion of how the Solar RAP recommended the different levels of PBR requirements, depending on the rated capacity, disturbance zones, and specific categories of projects.</p> <p>Part II: Based on the consensus recommendations of the Solar RAP, this proposal requires that projects with rated capacity of 5 MW or more and a disturbance zone of 10 acres or more meet the requirements set forth in Part II of the PBR regulation (9VAC15-60-30 et seq.) – which are the 14 statutory criteria – as long as the project does not exceed a rated capacity of 100 MW.</p>

	<p>C. The department has determined that different provisions should apply to projects that meet the criteria as set forth in Part III (9VAC15-60-130) of this chapter, and this regulation contains the requirements, if any, for these projects in Part III (9VAC15-60-130 A and 9VAC15-60-130 B) of this chapter. Projects that meet the criteria for Part III of this chapter are deemed to be covered by the permit by rule.</p> <p>D. The department has determined that small renewable energy projects utilizing other solar technologies shall fulfill all of the requirements in 9VAC15-40 as prescribed for small wind energy projects, unless (1) the owner or operator of the proposed project presents to the department information indicating that the other solar technology presents no greater likelihood of significant adverse impacts to natural resources than does PV technology, and (2) the department determines that it is appropriate for the proposed project utilizing the other solar technology to meet the requirements of this chapter (9VAC15-60) or of some modification to either 9VAC15-40 or 9VAC15-60, as prescribed by the department for that particular project.</p>	<p>Part III: The proposal provides in Part III (9VAC15-60-130 A & B) only minimal or no requirements for projects less than 5MW of rated capacity, less than 10 disturbed acres, or meeting the criteria of specified categories.</p> <p>As described in the “Alternatives” section, the RAP concluded that solar technologies other than PV and CPV might pose significant risks to natural resources; however, these risks cannot be analyzed when the other technologies that might someday be feasibly developed in Virginia are as yet unknown. The RAP recommended this provision to enable new or different technologies to be developed, without going through a change in the regulation, and yet with appropriate scrutiny and requirements tailored to the particular project and technology. If appropriate, new regulations can be developed in the future to address other technologies that are feasible and financially viable in Virginia.</p>
30	<p>Application for permit by rule for solar energy projects with rated capacity greater than 5 megawatts and disturbance zone greater than 10 acres.</p> <p>A. The owner or operator of a small solar energy project with a rated capacity greater than five (5) megawatts and a disturbance zone greater than 10 acres, provided that the project does not otherwise meet the criteria for Part III (9VAC15-60-130) of this chapter, shall submit to the department a complete application, in which he satisfactorily accomplishes all of the following:</p> <p>1. In accordance with § 10.1-1197.6 B 1 of the Code of Virginia, and as early in</p>	<p>This section lists the application requirements as set forth in the 2009 statute. If a particular requirement warrants detailed explanation, then that explanation is set forth either in guidance, in a subsequent section of the proposed regulation, or in both.</p> <p>The application requirements are quite specific, as is the practice in a permit by rule. Developers generally value that certainty of knowing exactly what they will be required to do. It enables them to plan their project’s design and operation, and to secure financing. Virginia’s proposed regulations appear superior to most states’ approaches in this respect, since most states largely make permitting decisions on a case-by-case, <i>ad hoc</i> basis.</p>

	<p>the project development process as practicable, furnishes to the department a notice of intent, to be published in the Virginia Register, that he intends to submit the necessary documentation for a permit by rule for a small renewable energy project;</p> <p>2. In accordance with § 10.1-1197.6 B 2 of the Code of Virginia, furnishes to the department a certification by the governing body of the locality or localities wherein the small renewable energy project will be located that the project complies with all applicable land use ordinances;</p> <p>3. In accordance with § 10.1-1197.6 B 3 of the Code of Virginia, furnishes to the department copies of all interconnection studies undertaken by the regional transmission organization or transmission owner, or both, on behalf of the small renewable energy project, if the project will be connected to the electrical grid;</p> <p>4. In accordance with § 10.1-1197.6 B 4 of the Code of Virginia, furnishes to the department a copy of the final interconnection agreement, if any, between the small renewable energy project and the regional transmission</p>	<p>The 2009 statute authorizes DEQ to develop a permit by rule for the “construction and operation” of small renewable energy projects. The statute does not address other major phases of a project’s development, namely siting and decommissioning. There is a subtle but significant difference between siting decisions (that is, whether or not a developer can put a project in a particular location) and permitting decisions (that is, how a developer must construct and operate the project once the site has been approved). Since the 2009 statute only authorizes DEQ to develop a permit program for construction and operation of projects, it is assumed that local governments will essentially be making the siting decisions in the process of determining whether to grant special use permits, zoning provisions, and the like. Likewise, decommissioning decisions will presumably fall to local governments, the provisions of the developer’s lease agreement, or other relevant entities or documents. Siting and decommissioning criteria are not included in the proposed permit by rule. Decisions regarding these provisions are consistent with advice from the Office of the Attorney General (OAG). As specified in the statute and proposed regulation, DEQ expects to receive certification from the local government that the applicant has met all local zoning, use permit, and other land-use-related requirements before DEQ considers the applicant’s permit by rule application.</p> <p>3. & 4. For the proposed Solar PBR, language was added to these sections to account for the fact that a number of solar projects may not be connected to the electrical grid, but rather provide electrical power to be used on site. If the project does connect to the grid, then copies of the interconnection studies and agreement need to be provided, as required by the statute.</p>
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	<p>organization or transmission owner indicating that the connection of the small renewable energy project will not cause a reliability problem for the system. If the final agreement is not available, the most recent interconnection study shall be sufficient for the purposes of this section. When a final interconnection agreement is complete, it shall be provided to the department. The department shall forward a copy of the agreement or study to the State Corporation Commission;</p> <p>5. In accordance with § 10.1-1197.6 B 5 of the Code of Virginia, furnishes to the department a certification signed by a professional engineer licensed in Virginia that the maximum generation capacity of the small solar energy project, as designed, does not exceed 100 megawatts;</p> <p>6. In accordance with § 10.1-1197.6 B 6 of the Code of Virginia, furnishes to the department an analysis of potential environmental impacts of the small renewable energy project's operations on attainment of national ambient air quality standards;</p> <p>7. In accordance with § 10.1-1197.6 B 7 of the Code of Virginia, furnishes to the department, where relevant, an analysis of the beneficial and adverse impacts of the proposed project on natural resources. The owner or operator shall perform the analyses prescribed in 9VAC15-60-40. For wildlife, that analysis shall be based on information on the presence, activity, and migratory behavior of wildlife to be collected at the site for a period of time dictated by the site conditions and biology of the wildlife being studied, not exceeding 12 months;</p>	<p>6. Although some of the other renewable media addressed by the 2009 statute involve potentially adverse impacts on attainment of NAAQS, it is not anticipated that PV solar energy projects will have any such adverse impacts. DEQ's guidance will explain that the applicant may meet the standard above by submitting a simple statement to this effect.</p> <p>If the applicant also chooses to state the solar energy project's beneficial impacts on attainment of NAAQS, he may do so.</p> <p>If the applicant is seeking offset credit for his solar energy project, he may append that information to this application. When DEQ's air division receives EPA's standards for offsets, those standards will become part of DEQ's guidance for this subsection. By being part of a regulatory application, the status of the applicant's offset request may be enhanced. A similar issue related to nutrient credits has also arisen. If this issue proves to be relevant for solar projects, then the same comment would apply.</p>
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<p>8. In accordance with § 10.1-1197.6 B 8 of the Code of Virginia, furnishes to the department a mitigation plan pursuant to 9VAC15-60-60 that details reasonable actions to be taken by the owner or operator to avoid, minimize, or otherwise mitigate such impacts, and to measure the efficacy of those actions; provided, however, that the provisions of 9VAC15-60-30 A 8 shall only be required if the department determines, pursuant to 9VAC15-60-50, that the information collected pursuant to § 10.1-1197.6 B 7 of the Code of Virginia and 9VAC15-60-40 indicates that significant adverse impacts to wildlife or historic resources are likely. The mitigation plan shall be an addendum to the operating plan of the solar energy project, and the owner or operator shall implement the mitigation plan as deemed complete and adequate by the department. The mitigation plan shall be an enforceable part of the permit by rule;</p> <p>9. In accordance with § 10.1-1197.6 B 9 of the Code of Virginia, furnishes to the department a certification signed by a professional engineer licensed in Virginia that the project is designed in accordance with 9VAC15-60-80;</p> <p>10. In accordance with § 10.1-1197.6 B 10 of the Code of Virginia, furnishes to the department an operating plan that includes a description of how the project will be operated in compliance with its mitigation plan, if such a mitigation plan is required pursuant to 9VAC15-60-50;</p> <p>11. In accordance with § 10.1-1197.6 B 11 of the Code of Virginia, furnishes to</p>	<p>8. General comments about the 2009 statute: The 2009 statute requires Virginia applicants to develop a mitigation plan for likely “significant adverse impacts” to both wildlife and historic resources, and “to measure the efficacy” of those mitigation plans. Research has not produced evidence of such across-the-board requirements in other states.</p> <p>Some business interests may pronounce these aspects of Virginia’s regulations stricter or more burdensome than those of other states; however, the regulations implement a statute in which these standards are mandated.</p> <p>Across the country, wildlife experts generally recommend that mitigation and monitoring be done regarding bat fatalities (for wind projects) and other wildlife; and historic resources experts also recommend mitigation by design modifications, screening, or offsets. Virginia appears to be ahead of the curve on these environmental protections.</p> <p>Different constituencies may have different views about the costs and benefits of these requirements. In the final analysis, Virginia’s statutory mandates for mitigation and post-construction monitoring are policy decisions made by the General Assembly after listening to the views of stakeholders on all sides of the issues. The proposed regulation attempts merely to implement these mandates, and to do so as faithfully, fairly, and reasonably as possible.</p> <p>10. This provision makes clear that DEQ is concerned only with the aspects of the project’s operating plan that involve implementation of the mitigation plan, if a mitigation plan is required. Enforcing health and safety and other operating-plan issues are not within DEQ’s authority over natural-resource protections, and they are left to the authority of local government and other relevant entities.</p>
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<p>the department a detailed site plan meeting the requirements of 9VAC15-60-70;</p> <p>12. In accordance with § 10.1-1197.6 B 12 of the Code of Virginia, furnishes to the department a certification signed by the applicant that the small solar energy project has applied for or obtained all necessary environmental permits;</p> <p>13. Prior to authorization of the project and in accordance with §§ 10.1-1197.6 B 13 and 10.1-1197.6 B 14 of the Code of Virginia, conducts a 30-day public review and comment period and holds a public meeting pursuant to 9VAC15-60-90. The public meeting shall be held in the locality or, if the project is located in more than one locality, in a place proximate to the location of the proposed project. Following the public meeting and public comment period, the applicant shall prepare a report summarizing the issues raised by the public and include any written comments received and the applicant's response to those comments. The report shall be provided to the department as part of this application; and</p> <p>14. In accordance with 9VAC15-60-110, furnishes to the department the appropriate fee.</p> <p>B. Within 90 days of receiving all of the required documents and fees listed in subsection A of this section, the department shall determine, after consultation with other agencies in the Secretariat of Natural Resources, whether the application is complete and whether it adequately meets the requirements of this chapter, pursuant to § 10.1-1197.7 A of the Code of Virginia.</p> <p>1. If the department determines that the application meets the requirements of this chapter, then the department shall notify the applicant in writing that he is authorized to construct and operate a</p>	<p>13. The 2009 statute provides that the applicant must hold a public meeting. The statute also provides that a 30-day public review and comment period must occur but does not specify who is to conduct it. The RAP discussed whether that entity should be the applicant or DEQ. In the waste permit by rule, the applicant is the party who conducts this comment period. The RAP endorsed the proposed provision, which assigns the applicant responsibility for both the public meeting and public comment period. One advantage of having the applicant perform this function is that it provides an opportunity for the applicant and public to seek common ground on controversial issues before the final application is submitted to DEQ.</p> <p>B. The proposed 90-day time limit for permit processing is expected to be beneficial to developers, allowing them to proceed with their proposed projects in a timely fashion. It is another aspect of certainty that helps developers make planning decisions and obtain financing. Research indicates that this proposed timeframe is significantly shorter than those used in many other states, and that a number of states do not even provide a time limit for permitting decisions. All RAP members, including representatives of the natural-resources sister agencies, agreed that an adequate and meaningful review of an application can be accomplished within 90 days.</p>
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	<p>small solar energy project pursuant to this chapter.</p> <p>2. If the department determines that the application does not meet the requirements of this chapter, then the department shall notify the applicant in writing and specify the deficiencies.</p> <p>3. If the applicant chooses to correct deficiencies in a previously submitted application, the department shall follow the procedures of this subsection and notify the applicant whether the revised application meets the requirements of this chapter within 60 days of receiving the revised application.</p> <p>4. Any case decision by the department pursuant to this subsection shall be subject to the process and appeal provisions of the Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia).</p>	<p>4. This provision reminds the public that the permit by rule, like all other DEQ regulations, affords the applicant (and others who have participated in the public participation process) full rights under the Administrative Process Act. These rights include the right to an informal hearing, formal hearing, or both.</p>
40	<p>Analysis of the beneficial and adverse impacts on natural resources.</p> <p>A. Analyses of wildlife. To fulfill the requirements of § 10.1-1197.6 B 7 of the Code of Virginia, the applicant shall conduct pre-construction wildlife analyses. The analyses of wildlife shall include the following:</p>	<p>The 2009 statute requires an applicant to analyze natural resources “where relevant.” “Relevant” is a hard word to define in narrative terms. The RAP chose to define it operationally. That is, the wildlife, historic, and other natural resources enumerated in this section are “relevant” if they are detected in the disturbance zone or other specified area by use of the assessment tools prescribed in the regulation. Only the natural resources specified in this section can be deemed relevant. And these natural resources only become relevant if the prescribed methods indicate that they exist in the prescribed areas in or near the disturbance zone.</p> <p>A. The following wildlife analyses were agreed upon by the RAP members as appropriate tools for identifying potential impacts of a proposed solar project on important wildlife. DEQ guidance documents will explain the details of how these analyses should be conducted.</p>

	<p>1. Desktop surveys and maps. The applicant shall obtain a wildlife report and map generated from DGIF's Virginia Fish and Wildlife Information Service web-based application (9VAC15-60-120 C 3) or from a data and mapping system including the most recent data available from DGIF's subscriber-based Wildlife Environmental Review Map Service of the following: (i) known wildlife species and habitat features on the site or within two (2) miles of the boundary of the site; and (ii) known or potential sea turtle nesting beaches located within one-half (1/2) mile of the disturbance zone.</p> <p>2. Desktop map for avian resources in Coastal Avian Protection Zones (CAPZ). The applicant shall consult the "Coastal Avian Protection Zones" map generated on the department's Coastal GEMS geospatial data system (9VAC15-60-120 C 1) and determine whether the proposed solar energy project site will be located in part or in whole within one or more CAPZ.</p> <p>B. Analyses of historic resources. To fulfill the requirements of § 10.1-1197.6 B 7 of the Code of Virginia, the applicant shall also conduct a pre-construction historic resources analysis. The analysis shall be conducted by a qualified professional meeting the professional qualification standards of the Secretary of the Interior's Standards for Archeology and Historic Preservation (9VAC15-60-120 B 2) in the appropriate discipline. The analysis shall include each of the following:</p> <p>1. Compilation of known historic resources. The applicant shall gather</p>	<p>Although the Wind PBR requires both desktop and field-survey analyses, the Solar RAP recommended that only desktop studies be required for solar projects. This recommendation reflects the fact that PV solar projects are not known to have extensive impacts on natural resources.</p> <p>1. (ii) The desktop survey for sea turtle nesting beaches is confined to ½ mile from the disturbance zone, as opposed to the 1-mile requirement for wind projects.</p> <p>2. Please see the "Alternatives" section of this submission for detailed comments regarding treatment of coastal avian resources and related issues.</p> <p>B. Please see the "Alternatives" section of this submission for a discussion of why historic-resources desktop and field studies must be performed by a DOI-qualified expert, even though a non-professional may perform the wildlife analyses, and only desktop wildlife studies are required.</p> <p>All RAP members agreed that the following assessment procedures, performed by a qualified professional, are appropriate tools for identifying potential impacts of a proposed solar project on historic resources, just as they are required for wind projects. Although impacts on historic resources tend to be, by their very nature, more qualitative than quantitative, RAP members were comfortable with the well-</p>
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<p>information on known historic resources within the disturbance zone and within one-half (1/2) mile of the disturbance zone boundary and present this information on the context map referenced in 9VAC15-60-70 B, or as an overlay to this context map, as well as in tabular format.</p> <p>2. Architectural survey. The applicant shall conduct a field survey of all architectural resources, including cultural landscapes, 50 years of age or older, within the disturbance zone and within one-half (1/2) mile of the disturbance zone boundary and evaluate the eligibility of any identified resource for listing in the VLR.</p> <p>3. Archaeological survey. The applicant shall conduct an archaeological field survey of the disturbance zone and evaluate the eligibility of any identified archaeological site for listing in the VLR. As an alternative to performing this archaeological survey, the applicant may make a demonstration to the department that the project will utilize non-penetrating footings technology and that any necessary grading of the site prior to construction does not have the potential to adversely impact any archaeological resource.</p> <p>C. Analyses of other natural resources. To fulfill the requirements of § 10.1-1197.6 B 7 of the Code of Virginia, the applicant shall also conduct a pre-construction desktop survey of natural heritage resources within the disturbance zone.</p> <p>D. Summary report. The applicant shall provide to the department a report presenting the findings of the studies and analyses conducted pursuant to subdivisions A, B, and C of this subsection, along with all data and supporting documents. The applicant shall assess and describe the expected beneficial and adverse impacts, if any, of</p>	<p>established protocols utilized by DHR and the U.S. Department of the Interior. DHR's regulations will be incorporated into DEQ's guidance documents to explain how the applicant should carry out the specified analyses.</p> <p>The general approach is for the applicant to perform desktop studies of the project area. If the desktop models indicate the presence of historic resources, then the applicant will proceed to perform field studies. Results of all studies will be reported to DEQ, along with the applicant's analysis of beneficial and adverse impacts of the proposed project on relevant historic resources.</p> <p>3. (Alternative) Solar RAP members discussed the fact that technology exists whereby solar panel footings do not penetrate the earth. The RAP agreed that use of this technology would obviate the need to analyze impacts to archaeological resources.</p> <p>C. RAP members agreed that Natural Heritage Resources (but not Scenic Resources – a change from the Wind PBR requirements) should be analyzed by the applicant, in addition to the wildlife and historic resources addressed above. Natural Heritage Resources are a major area of responsibility for DCR, an agency within the Secretariat of Natural Resources. Whereas this resource tends to involve habitat and is not specifically addressed in the 2009 statute (as are “wildlife” and “historic resources”), they are “natural resources,” and the statute requires that “natural resources” be analyzed. As discussed previously, it is especially important to include Natural Heritage Resources in the regulation, because they indicate the presence of T&E insects, which are a type of wildlife that the 2009 statute is interpreted to include. If a mitigation plan is required for wildlife under the Solar PBR,</p>
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	the proposed project on wildlife and historic resources identified by these studies and analyses.	then the applicant may choose to protect Natural Heritage Resources as a possible way to mitigate for impacts to T&E wildlife. (See mitigation section below.)
50	<p>Determination of likely significant adverse impacts.</p> <p>A. The department shall find that significant adverse impacts to wildlife are likely whenever the wildlife analyses prescribed in 9VAC15-60-40 A document that any of the following conditions exists:</p> <p>1. State-listed T&E wildlife are found to occur within the disturbance zone; or the disturbance zone is located on or within one-half (1/2) mile of a known or potential sea turtle nesting beach.</p> <p>2. The disturbance zone is located in part or in whole within zones 1, 2, 3, 4, 5, 10, 11, 12, or 14 on the Coastal Avian Protection Zones (CAPZ) map.</p>	<p>A. This section sets forth the mandatory triggers for a wildlife mitigation plan. The first mandatory trigger under the Wind PBR – presence of or habitat for bats – was considered by the Solar RAP not to be needed for the Solar PBR. Although wind turbines present a well-documented risk to bats, solar projects do not. Hence, there is no “bat” trigger for solar projects.</p> <p>1. The first solar mandatory trigger – T&E wildlife – was agreed by all Solar RAP members to be worthy of note by solar developers. The “taking” of a T&E species is actionable under both state and federal laws, totally apart from the PBR. The Solar RAP, like the Wind RAP, believed that a developer should make himself aware of the likelihood of T&E species within his proposed disturbance zone and take reasonable measures to avoid the chance of “taking” a T&E species.</p> <p>Sea turtles are T&E species. Both the Wind RAP and Solar RAP believed that special attention should be required of these turtles’ nesting areas, so as to avoid potential harm to the species themselves. Apparently, construction at certain times of year and lighting that is not properly directed can inhibit nesting activities and/or confuse the turtles about which direction to find the open sea. The relevant area of the nesting beach from the disturbance zone has been reduced from 1 mile in the Wind PBR to ½ mile in the proposed Solar PBR.</p> <p>2. As discussed in the “Alternatives” section, the location of the proposed solar project within one of the specified CAPZ areas was judged by the Solar RAP to constitute a likelihood of significant adverse impacts to the important avian resources within these critical geographic areas.</p>

	<p>B. The department shall find that significant adverse impacts to historic resources are likely whenever the historic resources analyses prescribed by 9VAC15-60-40 B indicate that the proposed project is likely to diminish significantly any aspect of a historic resource's integrity.</p>	<p>The specified zones are the ones in which scientists have already researched and established the highly significant nature and extent of avian resources.</p> <p>B. The integrity of a historic resource is defined in DHR's regulations. This information will be provided and explained in DEQ's guidance, much of which has already been drafted by DHR and the Wind RAP.</p> <p>Although the standard for triggering a historic resources mitigation plan is largely qualitative, the Wind RAP and Solar RAP were comfortable that it is understood by DHR and qualified professionals who will be dealing with the standard on behalf of the applicant.</p>
60	<p>Mitigation plan.</p> <p>A. If the department determines that significant adverse impacts to wildlife or historic resources or both are likely, then the applicant shall prepare a mitigation plan.</p> <p>B. Mitigation measures for significant adverse impacts to wildlife shall include:</p>	<p>Although the 2009 statute requires an applicant to analyze "natural resources," the only resources for which the statute authorizes or requires a mitigation plan are "wildlife" and "historic resources," and only if DEQ determines that "significant adverse impacts to wildlife or historic resources are likely." This section sets forth the criteria DEQ must use in making these determinations. These criteria operate as mandatory triggers for development of a wildlife mitigation plan or historic resources mitigation plan.</p> <p>A permit by rule is supposed to set forth across-the-board requirements "up front" for all applicants to follow. To the extent practicable, the RAP and DEQ followed this model in developing the proposed regulation. The analyses and mitigation triggers are "one size fits all." When it comes to mitigation, however, the RAP agreed that some degree of individualization will need to occur if the mitigation plan is to have meaningful impacts for the project in question. Consequently, the mitigation provisions set forth standard procedures for mitigation but leave room for case-specific determinations where needed.</p> <p>B. The regulation includes the traditional hierarchy for mitigation – avoid, minimize, offset.</p>

<p>1. For state-listed T&E wildlife, the applicant shall take all reasonable measures to avoid significant adverse impacts, or shall demonstrate in the mitigation plan what significant adverse impacts cannot practicably be avoided and why additional proposed actions are reasonable. These additional proposed actions may include best practices to avoid, minimize, or offset adverse impacts to resources analyzed pursuant to 9VAC15-60-40 A or 9VAC15-60-40 C.</p> <p>2. For proposed projects where the disturbance zone is located on or within one-half (½) mile of a known or potential sea turtle nesting beach, the applicant shall take all reasonable measures to avoid significant adverse impacts or shall demonstrate in the mitigation plan what significant adverse impacts cannot practicably be avoided, and why additional proposed mitigation actions are reasonable. Mitigation measures shall include the following:</p> <p>a. Avoiding construction within likely sea turtle crawl or nesting habitats during the turtle nesting and hatching season (May 20 - October 31). If avoiding construction during this period is not possible, then conducting daily crawl surveys of the disturbance zone (May 20 - August 31) and one (1) mile beyond the northern and southern reaches of the disturbance zone (hereinafter "sea turtle nest survey zone") between sunrise and 9:00 a.m. by qualified individuals who have the ability to distinguish accurately between nesting and non-nesting emergencies.</p> <p>b. If construction is scheduled during the nesting season, then including measures to protect nests and hatchlings found within the sea turtle nest survey zone.</p> <p>c. Minimizing nighttime construction during the nesting season, and designing project lighting during the construction and operational phases to minimize impacts on nesting sea turtles and</p>	<p>1. The proposal provides that the applicant may opt to propose best practices to mitigate for <i>other</i> wildlife-related resources when he cannot fully avoid impacts to T&E species. These proposals may include not only best practices to avoid "taking" a T&E species, but also best practices to mitigate other resources analyzed under the wildlife and Natural Heritage Resources provisions, when impacts on T&E species cannot be practicably avoided.</p> <p>2. The proposed mitigation requirements for projects located on or near a sea turtle nesting beach are the same in the Solar PBR as they are in the Wind PBR, except that the relevant area is ½ mile of the beach, rather than the 1 mile provided in the Wind PBR. It appears that mitigation strategies for nesting sea turtles are well established, and the Solar RAP saw no reason to vary from DGIF's original recommendations to the Offshore/Coastal Wind RAP.</p>
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	<p>hatchlings.</p> <p>3. For projects located in part or in whole within zones 1, 2, 3, 4, 5, 10, 11, 12, or 14 on the Coastal Avian Protection Zones (CAPZ) map, contribute \$1,000.00 per megawatt of rated capacity, or partial megawatt thereof, to a fund designated by the department in support of scientific research investigating the impacts of projects in CAPZ on avian resources.</p> <p>C. Mitigation measures for significant adverse impacts to historic resources shall include:</p> <p>1. Significant adverse impacts to VLR-eligible or VLR-listed architectural resources shall be minimized, to the extent practicable, through design of the solar energy project or the installation of vegetative or other screening.</p> <p>2. If significant adverse impacts to VLR-eligible or VLR-listed architectural resources cannot be avoided or minimized such that impacts are no longer significantly adverse, then the applicant shall develop a reasonable and proportionate mitigation plan that offsets the significantly adverse impacts and has a demonstrable public benefit and benefit for the affected or similar resource.</p> <p>3. If any identified VLR-eligible or VLR-listed archaeological site cannot be avoided or minimized to such a degree as to avoid a significant adverse impact, significant adverse impacts of the project will be mitigated through archaeological data recovery.</p>	<p>3. Mitigation for projects located in the specified CAPZ areas is discussed in the "Alternatives" section.</p> <p>C. Impacts of solar energy projects on historic resources may typically be of three types: direct impact on historic architectural resources, indirect impact (view shed impacts) on historic resources, or direct impacts on archaeological historic resources. To mitigate for these impacts, the applicant can sometimes move the location of solar panels within the site to minimize these impacts, or he can construct or plant screening materials (usually at or near the historic resource) so that the solar project cannot be as fully viewed from the historic resource. If he cannot practicably screen the project from view so that the impact is no longer a significant diminishment of the historic resource's integrity, then the applicant must develop an offset. The DHR member on the Solar RAP gave several examples of mitigation strategies employed at sites of other types of development. Among these examples were photographing and recording information about historic buildings before destroying them when clearing the land for development, giving recovered archaeological data to a museum, and erecting a display of photographs and other data about the impacted resource at or near the project.</p>
70	<p>Site plan and context map requirements.</p> <p>A. The applicant shall submit a site plan that includes maps showing the physical features, topography and land cover of the</p>	<p>A. The site plan should provide to DEQ and the public a clear idea of the chief features of the project site, including the size and placement of solar panels.</p>

	<p>area within the site, both before and after construction of the proposed project. The site plan shall be submitted at a scale sufficient to show, and shall include, the following: (i) the boundaries of the site; (ii) the location, height, and dimensions of all existing and proposed PV systems, other structures, fencing, and other infrastructure; (iii) the location, grades, and dimensions of all temporary and permanent on-site and access roads from the nearest county or state maintained road; and (iv) water bodies, waterways, wetlands, and drainage channels.</p> <p>B. The applicant shall submit a context map including the area encompassed by the site and within five miles of the site boundary. The context map shall show state and federal resource lands and other protected areas, Coastal Avian Protection Zones, historic resources, state roads, waterways, locality boundaries, forests, open spaces, and transmission and substation infrastructure.</p>	<p>B. This provision requires submittal of a context map of the area extending 5 miles around the boundary of the site. Discreet natural resources often occur within a larger context, such as a watershed. The RAP wanted to ensure that DEQ and the public are aware of the larger context in which the proposed project will exist, and its possible effect within that “big picture.”</p> <p>Of special note is the inclusion of “forests” and “open spaces” as required aspects of the context map. The potential impact of the project on forested wildlife habitat is addressed in the analyses section of the proposed regulation. The Department of Forestry representative pointed out that the issue of forest fragmentation is a slightly different forest-related concern. Possible forest fragmentation will be reflected on the context map, and can be taken into account by the public and local government, among others. The same is true for converted farm land, a concern of the representative from VDACS. If the project entails development of former farm acreage, the map showing open spaces will make that fact clear.</p>
80	<p>Small solar energy project design standards.</p> <p>The design and installation of the small solar energy project shall incorporate</p>	<p>This provision clarifies that DEQ is interested only in the aspects of the project design that relate to mitigation. It should be clear to the public that DEQ is not guaranteeing the quality of the work or the credentials of the person doing</p>

	any requirements of the mitigation plan that pertain to design and installation, if a mitigation plan is required pursuant to 9VAC15-60-50.	the design. Nor will DEQ be involved in ensuring compliance of the design with any requirements other than mitigation. If, however, the applicant's mitigation plan involves such things as locating a panel so as to avoid view shed impacts on a nearby historic resource, or to avoid the habitat of a T&E species, DEQ will expect to see those adjustments reflected in the project design and will enforce them accordingly.
90	<p>Public participation.</p> <p>A. Before the initiation of any construction at the small solar energy project, the applicant shall comply with this section. The owner or operator shall first publish a notice once a week for two consecutive weeks in a major local newspaper of general circulation informing the public that he intends to construct and operate a project eligible for a permit by rule. No later than the date of newspaper publication of the initial notice, the owner or operator shall submit to the department a copy of the notice along with electronic copies of all documents that the applicant plans to submit in support of the application. The notice shall include:</p> <ol style="list-style-type: none"> 1. A brief description of the proposed project and its location, including the approximate dimensions of the site, approximate number and configuration of PV systems, and approximate maximum height of PV systems; 2. A statement that the purpose of the public participation is to acquaint the public with the technical aspects of the proposed project and how the standards and the requirements of this chapter will be met, to identify issues of concern, to facilitate communication, and to establish a dialogue between the owner or operator and persons who may be affected by the project; 	<p>This section sets forth the requirements the applicant must complete for compliance with the statutorily-mandated public-participation on any project. The requirements are minimum requirements and are similar to those utilized for other DEQ permits by rule.</p> <p>DEQ decided to require the applicant to submit electronic copies of the documents that will be placed in a location near the proposed project -- documents that are required in support of the permit by rule application. This requirement should not be burdensome for the applicant, since all of these documents are likely to have been generated as electronic documents. It is increasingly the case that newspapers do not reach large segments of the public. DEQ will seek ways to make project notice and application information available electronically for the benefit of the public.</p> <ol style="list-style-type: none"> 1. This brief description will allow the public and interested persons who track all such developments the ability to discern, at a glance, whether they need to be concerned about the proposed solar energy project.

<p>3. Announcement of a 30-day comment period in accordance with subsection C of this section, and the name, telephone number, address, and email address of the applicant who can be contacted by the interested persons to answer questions or to whom comments shall be sent;</p> <p>4. Announcement of the date, time, and place for a public meeting held in accordance with subsection D of this section; and</p> <p>5. Location where copies of the documentation to be submitted to the department in support of the permit by rule application will be available for inspection.</p> <p>B. The owner or operator shall place a copy of the documentation in a location accessible to the public during business hours for the duration of the 30-day comment period in the vicinity of the proposed project.</p> <p>C. The public shall be provided at least 30 days to comment on the technical and the regulatory aspects of the proposal. The comment period shall begin no sooner than 15 days after the applicant initially publishes the notice in the local newspaper.</p> <p>D The applicant shall hold a public meeting not earlier than 15 days after the beginning of the 30-day public comment period and no later than seven days before the close of the 30-day comment period. The meeting shall be held in the locality or, if the project is located in more than one locality, in a place proximate to the location of the proposed project.</p> <p>E. For purposes of this chapter, the applicant and any interested party who submits written comments on the proposal to the applicant during the public comment period or who signs in</p>	<p>D. It may be difficult for members of the public to understand that their comments should be limited to the technical and regulatory aspects of the proposal. Those aspects are delineated in DEQ's permit by rule. Comments on factors beyond the scope of the 2009 statute and the permit by rule are not within DEQ's authority to address. Those comments should be directed to the local government or to whoever has authority over the issues.</p> <p>E. The RAP recognized that, for legal purposes, it is important to define clearly who has participated in the public comment period and therefore has the right to appeal DEQ's case decision under the Administrative Process Act.</p>
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	and provides oral comments at the public meeting shall be deemed to have participated in the proceeding for a permit by rule under this chapter and pursuant to § 10.1-1197.7 B of the Code of Virginia.	This provision seeks to do that. Persons, for instance, who chat with the owner's representative out in the hall at the public meeting have not met the requirement.
100	<p>Change of ownership, project modifications, termination.</p> <p>Change of ownership. A permit by rule may be transferred to a new owner or operator if:</p> <ol style="list-style-type: none"> 1. The current owner or operator notifies the department at least 30 days in advance of the transfer date by submittal of a notice per subdivision 2 of this subsection; 2. The notice shall include a written agreement between the existing and new owner or operator containing a specific date for transfer of permit responsibility, coverage, and liability between them; and 3. The transfer of the permit by rule to the new owner or operator shall be effective on the date specified in the agreement described in subdivision 2 of this subsection. <p>B. Project modifications. Provided project modifications are in accordance with the requirements of this permit by rule and do not increase the rated capacity of the small solar energy project, the owner or operator of a project authorized under a permit by rule may modify its design or operation or both by furnishing to the department new certificates prepared by a professional engineer, new documentation required under 9VAC15-60-30, and the appropriate fee in accordance with 9VAC15-60-110. The department shall review the received modification submittal in accordance with the provisions of subsection B of</p>	This section establishes requirements for permit by rule revisions such as change of ownership, modifications and permit terminations. The provisions of subsection C.3 are required by the Administrative Process Act when DEQ terminates a permit.

	<p>9VAC15-60-30.</p> <p>C. Permit by rule termination. The department may terminate the permit by rule whenever the department finds that:</p> <ol style="list-style-type: none"> 1. The applicant has knowingly or willfully misrepresented or failed to disclose a material fact in any report or certification required under this chapter; or 2. After the department has taken enforcement actions pursuant to 9VAC15-60-140, the owner or operator persistently operates the project in significant violation of the project's mitigation plan. <p>Prior to terminating a permit by rule pursuant to subdivision 1 or 2 of this subsection, the department shall hold an informal fact-finding proceeding pursuant to § 2.2-4019 of the Virginia Administrative Process Act in order to assess whether to continue with termination of the permit by rule or to issue any other appropriate order. If the department determines that it should continue with the termination of the permit by rule, the department shall hold a formal hearing pursuant to § 2.2-4020 of the Virginia Administrative Process Act. Notice of the formal hearing shall be delivered to the owner or operator. Any owner or operator whose permit by rule is terminated by the department shall cease operating his small solar energy project.</p>	
110	<p>Fees for projects subject to Part II of this chapter.</p> <p>A. Purpose. The purpose of this section is to establish schedules and procedures pertaining to the payment and collection of fees from any applicant seeking a new permit by rule or a modification to an existing permit by rule for a small solar energy project subject to Part II</p>	<p>The RAP asked DEQ to develop appropriate fee schedules in compliance with the 2009 statute and in keeping with the anticipated actual costs the agency will incur in administering the permit program. The provisions are DEQ's best calculation of what the fees need to be. The procedures for payment are those used in other DEQ regulations.</p>

	<p>(9VAC15-60-30 et seq.) of this chapter.</p> <p>B. Permit fee payment and deposit. Fees for permit by rule applications or modifications shall be paid by the applicant as follows:</p> <p>1. Due date. All permit application fees or modification fees are due on submittal day of the application or modification package.</p> <p>2. Method of payment. Fees shall be paid by check, draft, or postal money order made payable to "Treasurer of Virginia/DEQ" and shall be sent to the Department of Environmental Quality, Receipts Control, P.O. Box 10150, Richmond, VA 23240.</p> <p>3. Incomplete payments. All incomplete payments shall be deemed nonpayments.</p> <p>4. Late payment. No application or modification submittal will be deemed complete until the department receives proper payment.</p> <p>C. Fee schedules. Each application for a permit by rule and each application for a modification of a permit by rule is a separate action and shall be assessed a separate fee. The amount of the permit application fee is based on the costs associated with the permitting program required by this chapter. The fee schedules are shown in the following table:</p> <table><tr><th>Type of Action</th></tr><tr><td>Permit by rule application – by rated capacity</td></tr><tr><td>>5 MW to 25 MW</td></tr><tr><td>>25 MW to 50 MW</td></tr><tr><td>>50 MW to 75 MW</td></tr><tr><td>>75 MW to 100 MW</td></tr><tr><td>Permit by rule modification – for any project</td></tr></table>	Type of Action	Permit by rule application – by rated capacity	>5 MW to 25 MW	>25 MW to 50 MW	>50 MW to 75 MW	>75 MW to 100 MW	Permit by rule modification – for any project	<p>Included in the initial fee are DEQ's anticipated costs for processing the permit application and monitoring and enforcing the permit requirements. The application fee is tiered according to the rated capacity of the project, because the increasing land area expected to be occupied by the larger projects may involve a greater number of resource-protection issues. By contrast, there is only one fee for modification, since the major work concerning a particular project has probably been done at the time of the original application.</p> <p>The fee provisions are stated in a way to make clear that fees only apply to projects governed by Part II of the Solar PBR. No project governed by Part III (9VAC15-60-130 A or B) is required to pay a fee.</p>
Type of Action									
Permit by rule application – by rated capacity									
>5 MW to 25 MW									
>25 MW to 50 MW									
>50 MW to 75 MW									
>75 MW to 100 MW									
Permit by rule modification – for any project									

	<p>Part II of this chapter</p> <p>D. Use of fees. Fees are assessed for the purpose of defraying the department's costs of administering and enforcing the provisions of this chapter including, but not limited to, permit by rule processing, permit by rule modification processing, and inspection and monitoring of small solar energy projects to ensure compliance with this chapter. Fees collected pursuant to this section shall be used for the administrative and enforcement purposes specified in this chapter and in § 10.1-1197.6 E of the Code of Virginia.</p> <p>E. Fund. The fees, received by the department in accordance with this chapter, shall be deposited in the Small Renewable Energy Project Fee Fund.</p> <p>F. Periodic review of fees. Beginning July 1, 2013, and periodically thereafter, the department shall review the schedule of fees established pursuant to this section to ensure that the total fees collected are sufficient to cover 100% of the department's direct costs associated with use of the fees.</p>	<p>F. This re-opener clause parallels the same provision in the Wind PBR, except that the date has been changed from 2012 to 2013. The Solar PBR is expected to become final approximately one year after the Wind PBR.</p>
120	<p>Internet accessible resources.</p> <p>A. This chapter refers to resources to be used by applicants in gathering information to be submitted to the department. These resources are available through the Internet; therefore, in order to assist applicants, the uniform resource locator or Internet address is provided for each of the references listed in this section.</p> <p>B. Internet available resources.</p> <p>1. The Virginia Landmarks Register, Virginia Department of Historic Resources, 2801 Kensington Avenue,</p>	<p>Provided to assist applicants regarding resources required by the Solar PBR that are available through the internet.</p>

	<p>Richmond, Virginia. Available at the following Internet address: http://www.dhr.virginia.gov/registers/register.htm.</p> <p>2. Professional Qualifications Standards, the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, as amended and annotated (48 FR 44716-740, September 29, 1983), National Parks Service, Washington, DC. Available at the following Internet address: http://www.nps.gov/history/local-law/arch_stnds_9.htm.</p> <p>3. The Natural Communities of Virginia, Classification of Ecological Community Groups, Second Approximation, Version 2.3, Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA. Available at the following Internet address: http://www.dcr.virginia.gov/natural_heritage/ncintro.shtml.</p> <p>4. Virginia's Comprehensive Wildlife Conservation Strategy, 2005 (referred to as the Virginia Wildlife Action Plan) , Virginia Department of Game and Inland Fisheries, 4010 West Broad Street, Richmond, Virginia. Available at the following Internet address: http://www.bewildvirginia.org/wildlifeplan/</p> <p>C. Internet applications.</p> <p>1. Coastal GEMS application, 2010, Virginia Department of Environmental Quality. Available at the following Internet address: http://www.deq.virginia.gov/coastal/coastalgems.html.</p> <p>NOTE: This website is maintained by the department. Assistance and information may be obtained by contacting Virginia Coastal Zone Management Program, Virginia Department of Environmental Quality, 629 E. Main Street, Richmond, Virginia 23219, (804) 698-4000.</p>	
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	<p>2. Natural Landscape Assessment, 2010, Virginia Department of Conservation and Recreation. Available at the following Internet address: for detailed information on ecological cores go to http://www.dcr.virginia.gov/natural_heritage/vclnavnla.shtm. Land maps may be viewed at DCR's Land Conservation Data Explorer Geographic Information System website at http://www.vaconservedlands.org/gis.aspx.</p> <p>NOTE: The website is maintained by DCR. Actual shapefiles and metadata are available for free by contacting a DCR staff person at vaconslands@dcr.virginia.gov or DCR, Division of Natural Heritage, 217 Governor Street, Richmond, Virginia 23219, (804) 786-7951.</p> <p>3. Virginia Fish and Wildlife Information Service 2010, Virginia Department of Game and Inland Fisheries. Available at the following Internet address: http://www.vafwis.org/fwis/.</p> <p>NOTE: This website is maintained by DGIF and is accessible to the public as "visitors," or to registered subscribers. Registration, however, is required for access to resource- or species-specific locational data and records. Assistance and information may be obtained by contacting DGIF, Fish and Wildlife Information Service, 4010 West Broad Street, Richmond, Virginia 23230, (804) 367-6913.</p>	
130	<p>Provisions for Projects Less Than or Equal to Five Megawatts or Less Than or Equal to 10 Acres or Meeting Certain Categorical Criteria</p> <p>A The owner or operator of a small solar</p>	<p>This section sets forth the requirements for projects with "de minimis" impacts on natural resources, as recommended by unanimous consensus of the Solar RAP. The rationale for these provisions is explained in the "Alternatives" section of this submission.</p> <p>A. Projects that fall within subsection A do not</p>

<p>energy project is not required to submit any notification or certification to the department if he meets at least one (1) of the following criteria:</p> <p>1. The small solar energy project has either a rated capacity equal to or less than 500 kilowatts, or a disturbance zone equal to or less than two (2) acres; or</p> <p>2. The small solar project falls within at least one (1) of the following categories, without regard to the rated capacity or the disturbance zone of the project:</p> <p style="padding-left: 40px;">a. The small solar energy project is mounted on a single-family or duplex private residence.</p> <p style="padding-left: 40px;">b. The small solar energy project is mounted on one or more building(s) less than 50 years old.</p> <p style="padding-left: 40px;">c. The small solar energy project is mounted over one or more existing parking lots.</p> <p style="padding-left: 40px;">d. The small solar energy project utilizes integrated PV only, provided that the building or structure on which the integrated PV materials are used is less than 50 years old.</p> <p>B The owner or operator of a small solar energy project with either a rated capacity greater than 500 kilowatts and less than or equal to five (5) megawatts, or a disturbance zone greater than two (2) acres and less than or equal to 10 acres, shall notify the department by submitting a certification by the</p>	<p>have to provide notification or certification to the department. The RAP agreed that these projects have so little impact on resources that they do not warrant any kind of scrutiny by the department. A project qualifies for subsection A if it meets any one of the criteria listed in the subsection.</p> <p>1. As explained in the “Alternatives” section, the Solar RAP wanted to reference both rated capacity and disturbance zone. After lengthy discussion, the RAP agreed that the criterion should be <i>either</i> a rated capacity of 500 kW or less <i>or</i> a disturbance of 2 acres or less. This recommendation brings the Solar PBR “de minimis” criterion in step with the Wind PBR provision for projects that have no notification or certification requirements (for wind projects, the criterion is 500 kW or less).</p> <p>2. The Solar RAP also recommended that projects that meet any one of the criteria listed under subpart 2 should have no notification or certification requirements. Although these projects may well be of a small rated capacity and/or disturbance zone, the RAP recommended these categories without regard to any size criterion.</p> <p>B. Again, the Solar RAP recommended that this “de minimis” category reference both rated capacity and disturbance zone. RAP members again recommended that the criteria be “either/or,” and not both rated capacity and disturbance zone. The RAP’s final recommendation of >500 kW to 5 MW brings the</p>
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	<p>governing body of the locality or localities wherein the project will be located that the project complies with all applicable land use ordinances. In addition, the owner or operator of such small solar energy project shall certify in writing to the department that he has (i) performed a desktop survey of known VLR-listed and VLR-eligible historic resources within the project's disturbance zone and within one-half (1/2) mile of the disturbance zone boundary by means of an archives search of DHR's cultural resource inventory; (ii) performed a desktop survey of T&E species within the project's disturbance zone by obtaining a wildlife report and map generated from DGIF's Virginia Fish and Wildlife Information Service web-based application (9VAC15-60-120 C 3) or from a data and mapping system including the most recent data available from DGIF's subscriber-based Wildlife Environmental Review Map Service; and (iii) reported in writing the results of the archives search of known historic resources and desktop survey of T&E species to the governing body of the locality or localities wherein the project will be located.</p>	<p>Solar PBR's "de minimis" category in step with the Wind PBR's category. In both PBR's, the applicant is required to notify the department by providing certification by the local government that the project meets local land-use ordinances.</p> <p>The Solar RAP recommended an additional requirement for this category, however. Primarily because projects in this category may cover a rather large number of acres, the RAP believed that some sort of "fatal flaw" survey should be done. (For example, with current technology, the RAP heard testimony that a solar developer may need as much as 10 acres of land to generate 1 MW of electricity in parts of Virginia.) For both wildlife and historic resources – which are the only natural resources for which DEQ has statutory authority to require a mitigation plan – the applicant is required to perform a desktop survey of highly important resources. For wildlife, these resources are T&E species. For historic resources, these resources are the ones already identified as having historic (VLR) significance. For both, a non-professional may perform the surveys at low or no cost. There is no fee required, because DEQ is not receiving or acting on the results of these surveys – the applicant only needs to certify to DEQ that he has performed the surveys. Consistent with advice from the Office of the Attorney General (OAG), the provision requires that the applicant report the results to the local government. In this way, the local government and the public will be aware of the survey results when special use permits or other local permissions are considered.</p> <p>When the Solar RAP discussed these provisions, the wildlife portion referenced 9VAC15-60-40 A 1 – the provision that describes how the desktop wildlife analysis should be done for larger projects addressed by Part II of the proposal. For clarity and simplicity, DEQ staff excerpted the relevant portion of that provision to duplicate in Part III (9VAC15-60-130 B); that is, the databases the applicant must consult to learn the likely presence of T&E species within the disturbance zone. DGIF concurred with this wording.</p>
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140	<p>Enforcement.</p> <p>The department may enforce the provisions of this chapter and any permits by rule authorized under this chapter in accordance with §§ 10.1-1197.9, 10.1-1197.10, and 10.1-1197.11 of the Code of Virginia. In so doing, the department may:</p> <ol style="list-style-type: none"> 1. Issue directives in accordance with the law; 2. Issue special orders in accordance with the law; 3. Issue emergency special orders in accordance with the law; 4. Seek injunction, mandamus or other appropriate remedy as authorized by the law; 5. Seek civil penalties under the law; or 6. Seek remedies under the law, or under other laws including the common law. 	<p>DEQ will enforce the solar permit by rule the same way it enforces other permits. The 2009 statute includes an extensive section on enforcement, which is incorporated by reference into the proposed regulation. The statutory provision encompasses DEQ's relevant enforcement tools and procedures. These statutory provisions are further fleshed out in this section, with language the public is accustomed to seeing in other DEQ regulations.</p>
DIBR	<p>Documents incorporated by reference.</p> <p>The Natural Communities of Virginia, Classification of Ecological Community Groups, Second Approximation (Version 2.3), 2010, Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.</p> <p>Virginia's Comprehensive Wildlife Conservation Strategy, 2005, Virginia Department of Game and Inland Fisheries, Richmond, Virginia.</p> <p>Chapter 1: Introduction. Chapter 2: Methods. Chapter 3: Statewide Overview. Chapter 4: Virginia's Mid-Atlantic Coastal Plain. Chapter 5:</p>	

	<p>Virginia's Southern Appalachian Piedmont. Chapter 6: Virginia's Blue Ridge Mountains. Chapter 7: Virginia's Northern Ridge and Valley. Chapter 8: Virginia's Northern Cumberland Mountains. Chapter 9: Virginia's Southern Cumberland Mountains. Chapter 10: Conclusions. Glossary. Appendix A: The Species of Greatest Conservation Need. Appendix B: Species of Greatest Conservation Need with No Known Ecoregional Associations. Appendix C: Terrestrial Species with No Landcover Associations. Appendix D: Potential Habitat Mapping for Terrestrial & Aquatic Tier I Species. Appendix E: List of Tier I Species and Reviewers. Appendix F: Complete list of Stress/Source Combinations Identified by the Taxonomic Advisory Committees. Appendix G: Habitat Grouping Used by TACs in Assessment of Threats, Conservation Actions, and Research/Monitoring Needs. Appendix H: Threats to Virginia's Species of Greatest Conservation Need. Appendix I: Conservation Actions Identified by the Taxonomic Advisory Committees. Appendix J: Research and Monitoring Needs Identified by the Taxonomic Advisory Committees. Appendix K: Landcover Classes. Appendix L: Summaries of Community Meetings Facilitated by VCU's Center for Public Policy. Appendix M: Recommendations for Education and Outreach Actions. Appendix N: DEQ Impaired Waters Map. Appendix O: Reference Maps. Appendix P: Public Comments.</p>	
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Acronyms and Definitions

Please define all acronyms used in the Agency Background Document. Also, please define any technical terms that are used in the document that are not also defined in the "Definition" section of the regulations.